

SPARKS JOURNAL

★ ★ ★ ★ SOCIETY OF WIRELESS PIONEERS, INC. ★ ★ ★ ★

LEGENDS OF THE WIRELESS PIONEERS

RECORDING THE EARLY HISTORY & DEVELOPMENT OF THE WIRELESS

VOLUME 5, NO. 1

- QUARTERLY -

UFCO/TRT EDITION - 1982

EARLY HISTORY - UNITED FRUIT COMPANY

SAGA OF THE 'GREAT WHITE FLEET'

WIRELESS PIONEERS - TROPICAL RADIO TELEGRAPH CO.

The History of the Development of the United Fruit Company's Radio Telegraph System

By ROY MASON

THE story of what the United Fruit Company has accomplished in developing its system of radio communication, the installation of which was begun in 1904, is the history of the development of the radio art in the United States since that date. This American company, which is the greatest agricultural, as well as one of the largest steamship enterprises in the world, has shown an initiative and progressiveness in developing this system which is unparalleled in the commercial radio art.

Its steamships, comprising the "Great White Fleet," are built especially for service in tropical waters, and furnish regular passenger, mail, and freight service between the Atlantic and Gulf ports of the United States and Cuba, Jamaica and the Atlantic ports of Central America and Colombia, and, through the connecting lines at the Panama Canal, with the west coast ports of Central and South America.

In 1904, the entire eastern coast of Central America and the northern coast of Colombia, South America, were without any direct means of communication with the United

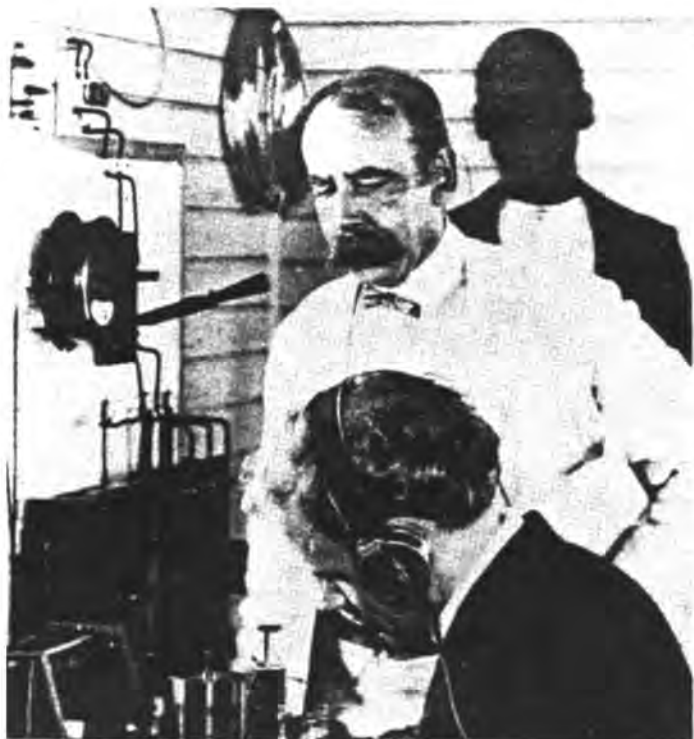
States, with the single exception of a cable station at Colon, Panama. The route which messages from the United States for Central America had to follow up to that time, was by cable through Galveston, Texas, across Mexico and down the west coast of Central America to San Juan del Sur, Nicaragua, and thence via government owned and operated land wires to points of destination. These land lines—traversing as they did swamps and jungles, and being subject to the usual adverse conditions encountered in certain parts of this tropical section, with its torrential downpours and consequent washouts and floods,—made it extremely difficult, and in a great many cases impossible, to maintain a constant and thoroughly reliable telegraphic service. As a consequence, messages to some parts of this territory were subject to delays of hours and often days.

Dealing as it does in such a perishable product as the banana, and directing the movement of a large number of steamships at tropical ports, the United Fruit Company has always been dependent upon quick, reliable telegraphic

(Continued on Page 4)



This map shows the Wireless Stations and Circuits of the United Fruit Company in 1910. Communication with Belize, British Honduras; Puerto Barrios, Guatemala; Colon, Palama; Cristobal, CZ. and Santa Marta, Colombia was via ship stations when UFC vessels were at docks in those ports.



MACK MUSGRAVE -

"Father" of the United Fruit Company's Wireless System. This picture was taken at Port Limon C.R., on March 23, 1904 when the circuit with Bocas del Toro Panama was established. "Mack" [in white suit] standing with Pioneer Operator A. C. Barnhart at key in foreground. Mr. Musgrave was granted leave of absence from United in 1911 and went to Alaska on a secret mission for the Government. Hardships in Alaska undermined his health so he returned to Seattle two years later where he became a Silent Key.



SPARKS JOURNAL USPS 365-050

PUBLISHED QUARTERLY FOR OUR PROFESSIONAL MEMBERS WITH ISSUES SCHEDULED FOR SPRING, SUMMER, FALL AND WINTER (ALTHOUGH NOT SO MARKED) BY THE SOCIETY OF WIRELESS PIONEERS, INC., A NON-PROFIT ORGANIZATION, CHARTERED AS SUCH UNDER THE LAWS OF THE STATE OF CALIF. COPIES ARE FURNISHED TO SUSTAINING MEMBERS OF THE SOCIETY WHO PAY FOR SAME THROUGH DUES. A LIMITED NUMBER OF PUBLICATIONS ARE MAILED WITHOUT COST TO SELECTED TECHNICAL INSTITUTIONS, COLLEGES, UNIVERSITIES, LIBRARIES, MUSEUMS AND THE NATIONAL AND STATE ARCHIVES THAT HAVE REQUESTED COPIES OF SOCIETY PUBLICATIONS FOR REFERENCE OR EDUCATIONAL PURPOSES.

MAILING ADDRESS: P.O. BOX 530, SANTA ROSA, CALIF., 95402 - U.S.A. PLEASE DIRECT ALL INQUIRIES AND CORRESPONDENCE, INCLUDING CHANGES OF ADDRESS, ETC., FOR EXPEDITIOUS ATTENTION AND HANDLING.

EDITORIAL OFFICE: 3366-15 MENDOCINO AVENUE, SANTA ROSA, CA 95401 USA. (TELEPHONE 707/542-0898) EDITOR AND PUBLISHER - WILLIAM A. BRENNIMAN

THE PRIMARY PURPOSE AND OBJECTIVE OF THE SOCIETY IS THAT OF COLLECTING, RESEARCHING, AND RECORDING THE HISTORY OF COMMUNICATIONS - PARTICULARLY THAT WHICH RELATES TO HERTZIAN WAVES AND THE WIRELESS OR RADIO-TELEGRAPH MODE OF THE ART.

EVERY EFFORT IS MADE TO ASSURE THE VALIDITY AND AUTHENTICITY OF MATERIAL PUBLISHED HEREIN. HOWEVER, THE SOCIETY AND ITS OFFICERS ASSUME NO RESPONSIBILITY OR LIABILITY FOR ERROR/S. MANUSCRIPTS AND ARTICLES PUBLISHED, EXPRESS THE OPINION AND VIEW OF THE AUTHOR SUBMITTING AND DO NOT NECESSARILY AGREE WITH THOSE OF THE SOCIETY OR ITS OFFICERS.

SECOND CLASS POSTAGE HAS BEEN PAID AT SANTA ROSA, CA 95402. PLEASE SEND POSTAL FORM 3579 TO THE SOCIETY OF WIRELESS PIONEERS, INC., IF COPY CAN NOT BE DELIVERED. PLEASE FURNISH NEW FORWARDING ADDRESS IF POSSIBLE.

WE WILL TAKE REASONABLE CARE WITH PICTURES, MANUSCRIPTS AND LIKE MATERIAL RECEIVED. HOWEVER, THE SOCIETY AND ITS OFFICERS WILL NOT ACCEPT ANY RESPONSIBILITY FOR DAMAGE OR LOSS TO SUCH MATERIAL. THOSE REQUESTING RETURN OF MATERIAL FURNISHED SHOULD INCLUDE S.A.S.E. TO COVER RETURN AND/OR REPLY. ALL PHOTOGRAPHS SENT SHOULD BE IDENTIFIED ON BACKSIDE RE: NAME OF SENDER AND CAPTION OR NARRATIVE COVERING WHAT/WHO IS PICTURED.

PUBLICATION DATE



SPARKS JOURNAL
JULY 23 1982
VOL. 5 - NO. 1
UFC/TRT EDITION

SOCIETY OF WIRELESS PIONEERS, INC.

OFFICERS & DIRECTORS

OFFICERS, DIRECTORS, STAFF

Non-profit Historical Organization

OFFICERS

Judge James Harvey Brown - President
William A. Breniman - Exec. Secretary
Lorin C. DeMerritt - Treasurer
Col. Manuel Fernandez - Sr. V.P.
John N. Elwood - VP, Membership
William C. Willmot - VP, P&R
Phyllis Stevenson - VP, Chapters
Brandon Wentworth - VP, Int'l. Affairs
Allen Barnabei - VP, Awards
Eben K. Cady - VP Audits & Finances

BOARD OF GOVERNORS

Prof Herbert J. Scott - Berkeley (*)
Eric Walter - Switzerland
Fred Rosebury, Natick, MA
Arthur W. Filtzess, Vancouver BC
Emerson R. Mehrling, Fairfax, VA
Fred M. Winkel, Los Angeles
Mario G. Abernathy, San Diego
Robert Gleason, Annapolis, MD
Joseph A. Falbo, Tucson, AZ
Fred Mangelsdorf, Sonoma, CA
Earl W. Baker, Pt. Orchard, WA
Ralph Hazleton, Salem, OR
(*) Chairman

AREA LIAISON & COORINATION

Great Britain - John A. Edwards
Edwin G. Raser - N.E. USA
Ero Erickson - Chicago, Gt. Lakes
Karl H.W. Baarslag, SE USA
V.H. Conradt-Eberlin, Pac. N.W.
(CONTINUED UPPER RIGHT)

AREA LIAISON & COORDINATION

Frank Carey - Australia & So. Pac.
Cornelia Glerum - No. Europe
Jose Contreras - Lima Peru
Dady S. Major, India & SW Asia
Harry A. MacLaren - Gulf Coast USA

CHIEF OPERATOR SOWP NETS

Seymour Straus - W4IKU

DIRECTORS SOWP CHAPTERS

Fred M. Winkel - Los Angeles III
Earl D. Scott - Seattle V
Lamar Hutchinson - NOLA GULF XVIII
Milton Schwartz - NY/NJ XI
Paul M. Stevenson - Great Lakes Intd Seas
Leonard A. Polack - Vancouver Island BC
John A. Edwards - Great Britain
Frank A. Carey - Australia, So. Seas.
Paul N. Dane - Golden Gate I
San Diego - Robert L. Farris
Wm A. Willmot - Florida (A)
John J. Kelleher, Washington X Capital Area
Robert H. Snyder - Hawaii
Kenneth J. Taylor - Eastern Canada
Eric Walter - Switzerland
Cornelius Glerum - Netherlands N. Europe
Charles R. Sewell - Ariz. SW IX
HQ. STAFF

William A. Breniman - Exec. Secretary
Frances L. Kirkland - Secretary & Records
Elmer Burgman - Staff Aide
Ruth Breniman - Staff Assistant
EDITORIAL STAFF
William A. Breniman - Editor/Publisher
Fred Rosebury - Associate Editor
Prof. H.J. Scott - Historian
Thorn L. Mayes - Systems & Equip. (NL)
Wm. C. Willmot - Nets / Ham Radio

[Subject change by elections in November]



Table of Contents

ARTICLES OF HISTORIC INTEREST [Click on Index item below](#)

1. Saga of the "Great White Fleet" - Roy Mason
8. I Sailed with Tropical Radio - Walter M. Drozdick
11. "WNU" - Voice of TRT in Nola. V.W. Cornelius
12. Story of 'Gulf Radio School' - Thurman E. Wilson
15. Roster - Ships of the "Great White Fleet" - Elmer Burgman
16. Pictures of United Fruit Company Ships - John H. Melville
17. 'Quotes' from John Melville's Book on "The Great White Fleet" (Several Chapters are reprinted from his late book)
20. SPARKS JOURNAL - Covers of 16 Historical issues.
22. "Men of Destiny" - Their Heritage. (Pictures of those who played important roles in the building of a great communications system through the Gulf and Caribbean areas - Furnished by R. D. Wahlstrom from TRT brochures.
23. The Communication System of the Tropical Radio Telegraph Company - Charles C. Harris [Chief Engineer]
32. Pictures - Modernized WNU Station & Equipment - Peter Scott, Manager Marine Services, TRT, Telecommunications Inc., Miami, Fla.
34. Historical Assignments with TRT - Raymond M. Muro
35. (Continued) - Thomas H. Ellis and Herb Gleed
36. (Continued) - Stanley F. Wade.
37. "YES - We Have No Bananas !!" Bill Breniman
38. Early Days on Swan Island - Stephen Paull
39. My Early Assignment at Tegucigalpa - Station - "UG" By - Gordon Pascoe

CREDITS

We acknowledge with thanks, memorabilia in the form of stories, pictures, illustrations, etc., used in this issue of the SPARKS JOURNAL which features the early days of the United Fruit Company and their Radio-Telegraph Department which became TRT circa 1912. Ships of the Fruit Company became known as the "Banana Navy" and were called - "The Great White Fleet" [not to be confused with another "Great White Fleet" of the United States Navy and under command of Adm. 'Fighting' Bob Evans who circled the globe circa 1912 'to show the flag']. "La Gran Flota Blanca" as the 150 or so UFC ships became one of the world's great steamship companies.

We wish to acknowledge, with thanks, and give credit, in addition to those whose 'by-lines' appears with stories and pictures published, the names of members and others who assisted greatly with material used in this issue. They are as follows: Lamar T. Hutchinson (Director SOWP Gulf Coast Chapter); Harry A. Maclaren (Member SOWP Board of Governors), R. D. Wahlstrom, M.G. Dobbs (WNU-Nola), Mr. John H. Melville (author) who spent 44 years with UFC; Raymond B. Jewett, Peter Scott (Mgr. TRT - Telecommunications Inc. Marine Services, Miami), Edward L. Tilton, Walter J. Berridge, Raymond J. Green, V. W. Cornelius. Others who contributed significantly include Messrs. Luther W. Eldridge, A.B. Fisher, Ivan A. Leo, A.J. "Tony" Thuma J.F. Rodriguez Jr. (Drawings of UFC ship on masthead and page 23 (furnished by Honorary Member Frank O. Braynard); Don Thomas, Thurman E. Wilson, Clarence Kelley; USN Ship Data Section of P/R Division; USCG and many others.

Regretfully, we were unable to publish a number of stories or revelatory material due to several causes including lack of identification for credit, space limitations and lack of time to edit material due to deadlines etc.

I also wish to give special credit to XYL - Ruth Breniman for the many long hours of 'paste-up' and her skillful expertise in making the Journal a 'readable' and interesting publication. Her service and dedication have been invaluable. W.A.B.



The Founders Page



WILLIAM A. BRENNIMAN



Swift Liner of the GREAT WHITE FLEET, UNITED FRUIT COMPANY

A Tribute

HONORING WIRELESS* MEN

This public announcement by the United Fruit Co., in newspapers, magazines and other media during the later part of WW-2 is largely the reason UFC enjoyed the large measure of loyalty and 'esprit de corps' it enjoyed and the reason it was able to attract and keep the many fine operators over the years. The announcement at right, furnished by member Richard S. [Dick] Egolf who sailed on the SS Tenadores and Calamares is one of the finest exhibits we have ever seen of the appreciation it had for skill and decication of its Radio Officers. (Be sure to read box on upper right). (*-Radio)



Musa paradisiaca sapientum

THE BANANA PLANT

Witness to History

EDITOR'S DILEMMA - [So much to say - So little space]
I hope members and readers will enjoy this special issue devoted to the early days of the United Fruit Co. and Tropical Radio Telegraph Co. Regretfully, one issue can not do full justice to the volume of memorabilia available. Regretfully, UFC is but a memory. The Federal Government filed a civil anti-trust suit requiring UFC to agree to divesting itself by 1958 of major control of the banana trade. During 1955 the Company operated 62 ships under the U.S. Flag. 50 of these ships were 'reefers' which handled 2-1/2 million stems of bananas and completed 982 voyages and about 5.2 million nautical miles. These ships averaged 255 steaming days per year - a highly efficient operation. The Great White Fleet is gone but its subsidiary - Tropical Radio Telegraph has become an independent entity - TRT - Telecommunications Corp., With its background of experience and its staff of professionals in the communications field, it is rapidly becoming one of the great communication systems of the world.

SHORT NOTES: Members who have not received their "TITANIC" pins may still request. They will be sent free to those furnishing a SASE and who have paid their 1982 dues. Offer ends Sept. 1 1982.
NEXT ISSUE: We plan to substitute "A Potpourri of Wireless-Telegraph History" in place of the "Aviation Radio" issue which will be delayed one issue to give time for additional material. Hopefully this will give us time to get out other publications long delayed.

William A. Breniman - Editor.

The man we take for granted



*He's the Radio Officer - the ears and voice of the ship...
In peace and war our seaborne commerce clears through his transmitters and receivers...
Emergencies affecting the very lives of passengers call for his skill. He is the one man, besides the Captain, whose post of duty keeps him aboard ship, until the last moment.
No one lives closer to the high traditions of the sea than this man we take for granted!*

The invisible link, which keeps our ships and the men who man them, in constant touch with the world, was not forged overnight.

A prominent part in the pioneering of ship-to-shore communication was played by the United Fruit Company in Caribbean waters. Early in the present century the company equipped its Great White Fleet with radio, in order to expedite the precise movement of a perishable commodity-bananas.

As trade and shipping to Middle America expanded, the radio service afloat and ashore kept step, providing year by year more facilities for exporters, importers, and travelers.

A ring of connecting shore stations was established in Middle American countries and in the United States, to

give instant radio contact with many points. And, as public interest grew, a full communications service was provided for citizens of Caribbean lands, under the name of Tropical Radio.

Today radio men of the Great White Fleet are devoting their technical skill to the cause of freedom-some in the Armed Forces, others in the essential service of expediting war cargoes carried by the fleet.



When ships can be spared for the Caribbean trade, the Great White Fleet will be back. Its radio men will again do their part in maintaining the efficiency of traffic operations between the Americas, and in giving 24-hour protection to ships, passengers and cargoes.

Calling all Americans...
Calling all Americans...
Back the attack...
BUY WAR BONDS

Great White Fleet

UNITED FRUIT COMPANY



GUATEMALA * EL SALVADOR * HONDURAS * NICARAGUA * COSTA RICA * PANAMA * COLOMBIA * CUBA * JAMAICA, S. W. I.

T. R. T. and the 'The Great White Fleet'

(Continued from Page 1)

TROPICAL RADIO TELEGRAPH

AS TOLD BY ... ROY MASON

and telephonic communication, not only between its offices in the United States and Central America, but between its various banana plantations and division headquarters in the tropics. Therefore, delays to its messages, or inability to send them at all, were of most serious consequence.

In 1904 the Company had already established its own telegraph and telephone lines between its banana plantations and division headquarters in the individual countries of Central America, and was expanding this system to connect the division headquarters of each country.

THE COMMUNICATION CHALLENGE

That year the late Mr. Mack Musgrave, who was in charge of the Company's telegraph and telephone service in Costa Rica, was instructed to make a trip overland between Port Limon and Bocas del Toro, to report on the practicability of constructing a telegraph and telephone line between the headquarters of its Costa Rica Division at Port Limon and the headquarters of its Panama Division at Bocas del Toro, a distance overland of about 150 miles and by sea of about 75 miles. At this time the only means of "quick" (?) communication with Bocas del Toro was by means of canoe from Port Limon. Messages from the Company's offices in the United States for Bocas del Toro were telegraphed to Galveston, Texas, and then cabled to San Juan del Sur, Nicaragua, where they were given to the Nicaraguan Government land lines, which in turn transferred them at the border to the Costa Rican Government land lines for transmission to the Company's office at Port Limon. These messages were then entrusted to natives, who would make the trip in a canoe on the open sea between Port Limon and Bocas del Toro in from 30 to 60 hours, depending upon weather conditions. This canoe service, although it served a purpose, was not only expensive (\$25.00 gold for the trip) but was unsatisfactory, as in many instances messages sent to advise the manager at Bocas del Toro of the expected time of arrival of a steamship, or of delays to steamships en route to that port, would not be received until after the bananas had been cut, and in many cases not until after the arrival of the steamship to which the message referred. As a result, whole trainloads of bananas, cut and transported to the seaboard on the assumption that a steamship would arrive at least within twelve hours of scheduled time, would necessarily be left on sidings or in the freight yards, where they would soon spoil.

Or again, a steamship would arrive without the Company's manager having received the message apprising him of her expected arrival, and it would then be necessary to hold her in port until the bananas could be cut and transported to seaboard. These same conditions were true to a greater or less extent at other of the Company's tropical division points.

The establishment of a means of quick communication with the Company's tropical divisions, and particularly with the rapidly growing Panama division, was, therefore, of paramount importance, and the Company was prepared to go to almost any expense to insure against undue delays to its messages, which so seriously affected its principal business of growing and transporting bananas to the United States and Europe.

MUSGRAVE DECIDES ON WIRELESS

After making the overland trip from Port Limon to Bocas del Toro, Mr. Musgrave reported that, on account of the numerous rivers and swamps to be crossed and the character of the country in general, it was his judgment that wire telegraph or telephone lines could be constructed only with great difficulty and that on account of floods and washouts, the service which could be maintained over such a line, were it established, would be subject to frequent interruption. He therefore suggested the establishment of radio stations at Port Limon and Bocas del Toro, which recommendation was adopted, and he was instructed to proceed to the United States and purchase the necessary equipment.

This was shortly after the International Yacht Races off Sandy Hook where the *Reliance* and the *Shamrock III* had been successfully reported by radio by the original American De Forest Wireless Company, later known as the United Wireless Telegraph Company. Mr. Musgrave purchased from the former company the transmitting and receiving sets for the stations at Port Limon and Bocas del Toro. The apparatus purchased for the latter station was the selfsame set used in reporting the International Yacht Races. It was installed at Bocas del Toro in 1904, and the transmitter continued in operation as a "standby" until 1921, the engine and generator of this set being still in service at Almirante, Panama, as auxiliaries to other power equipment.

1905 - FIRST W/T SERVICE IN CENTRAL & S.A. INAUGURATED

The radio service between Port Limon and Bocas del Toro was inaugurated early in 1905, and was the first to be established in Central

South America. There being no other means of telegraphic communication with Bocas del Toro, that station handled not only all telegraphic business of the United Fruit Company, but that of the general public as well, until 1921, when the station was moved to Almirante, Panama, a few miles away, where the Company had established its new divisional headquarters. Messages for the general public at Bocas del Toro are now handled via Almirante, and thence by telephone.

The original Bocas del Toro station consisted of one 200-foot self-supporting steel tower and umbrella antenna, and a combined dwelling and operating house, all situated on a hill overlooking Almirante Bay.

BOCAS del TORO - PORT LIMON

The Port Limon station comprised two 200-foot self-supporting steel towers having a span of 200 feet, an inverted L antenna, a power house and an operating house, all erected on the seaboard. The towers and engines are still in use, but in 1912 the original transmitting apparatus was replaced by a Fessenden 5 K. W. 500 cycle rotary synchronous spark transmitter. Steel towers 200 feet in height were a distinct departure from the wooden masts of from 125 feet to 185 feet in height, which carried the antenna at the majority of coast stations in those days.

MEMORIES OF MY TROPICAL RADIO YEARS ...

By - Harry A. Maclaren

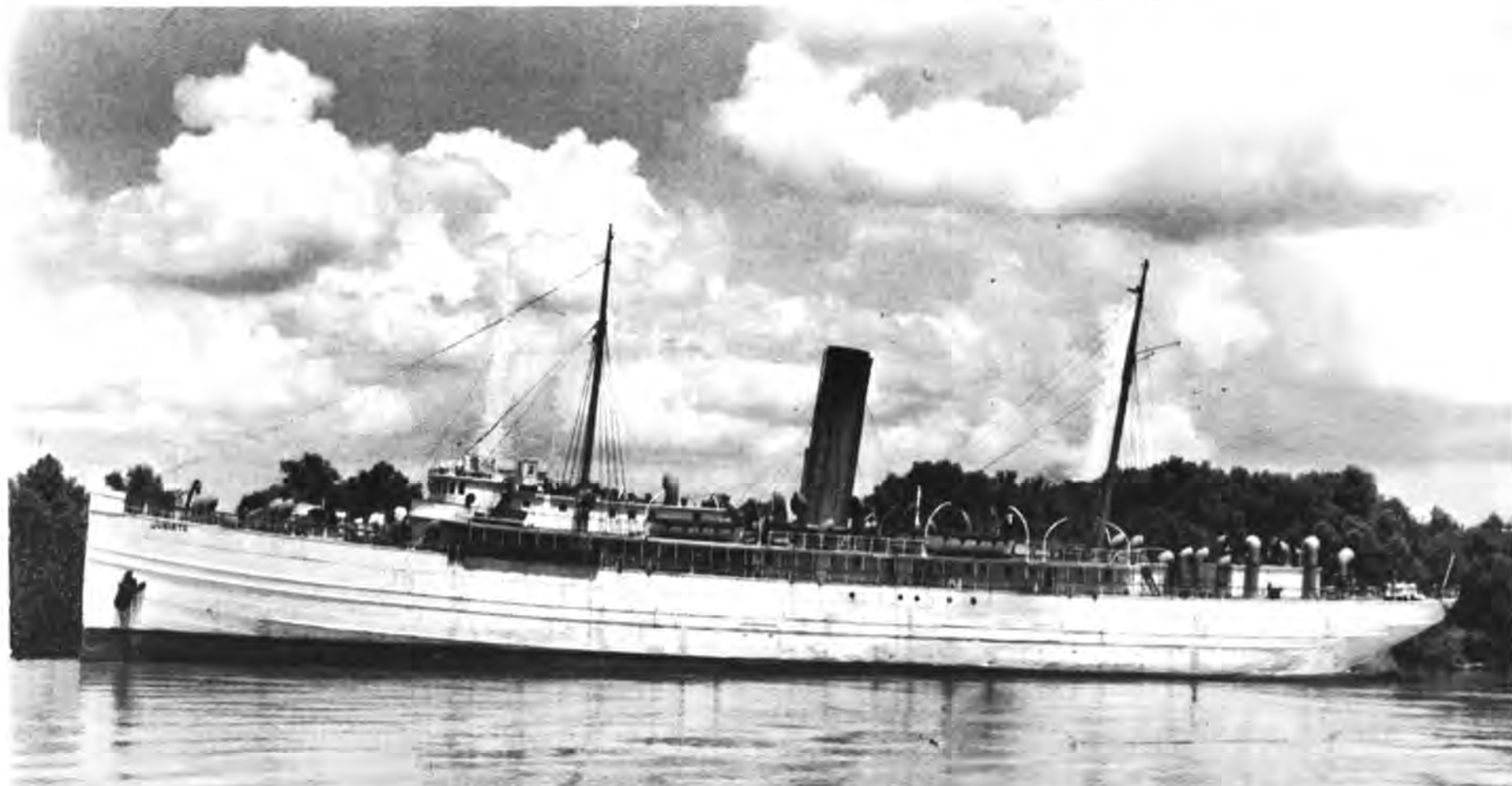
Recently I had the pleasure of looking over the collection of pictures and memorabilia of my old friend Edward L. Tilton - Spark-Gap Pioneer member SOWP-2124. Among Lee's pictures I spotted this one of the SS JUNIATA which tickled me as I had joined this old wreck: in New York April 24 1942.

She had been rescued from the bone-yard somewhere in New York and, along with her sister-ship, the SS HOWARD, was requisitioned by UFCO to pick some bananas on homeward trips from the Caribbean areas, notably Honduras. These ships were built in 1898 for the East Coast passenger run by Merchant & Miner's Atlantic SS Co. At that time they were considered to be the "Crack" ships on a route between New York, Boston, Philadelphia with speed of 16 knots or better.

We cast off from our New York pier while painters and riggers were still putting finishing touches on the rejuvenation job. They went ashore from the roads in towboats! Our crew had been sent north from Mobile, all blacks and innocent of any sea-experience! My radio shack was a make-shift cabin full of hastily installed RCA gear with call HRCQ (Honduran). We joined a convoy near Staten Island and the fun began in earnest... breakdown after breakdown! We couldn't maintain position in convoy and were left trailing far behind.

We finally made it into Baltimore for repairs, where the black deckhands had enough so signed off. After some delay we sailed again and made it alone down south to the port of Puerto Cortes, Honduras. Nobody there seemed to know we were coming (radio silence was the rule). Capt. Case in command loaded a cargo of bananas and off we went again bound for New Orleans!

We reached the Gulf of Mexico and commenced taking on water and sinking by the stern. Capt. Case headed for Galveston and we made it but the USCG told us to move on as soon as temporary repairs were made. We sailed and kind of staggered into the Mississippi River and made it upriver to the UFCO wharf in New Orleans. The BANANAS were welcome but it had been a real 'Madhatter's' journey. How we missed being knocked-off by U-Boats is a mystery. Capt. Case suggested the Germans mebbe thought we were a "Q-Ship"—ready to sprout guns if attack! The SS Howard (sister ship) by the way, was torpedoed. This introduction was quite a contrast to ships and stations of TRT and UFCO I was to be assigned later.



S.S. JUNIATA HRCQ

The receiving apparatus at both stations has been changed from time to time as the radio art advanced. The original receivers were of the De Forest two and three slide tuner types, having as detectors the old "goo" responder, and later the electrolytic of both the Fessenden and Shoemaker types, which were subsequently replaced by the Pickard crystal detectors.

These first radio stations of the United Fruit Company were installed under the direct supervision of Mr. Henry O. Easton, who will be remembered by the pioneers in radio as one of the first installers and operators employed by the old American De Forest Wireless Company. Mr. Easton is still with the Company as Superintendent of its tropical stations, and is also Division Superintendent at New Orleans of the Tropical Radio Telegraph Company.

The operation of these two stations convinced the Directors of the United Fruit Company that, regardless of the many imperfections in radio apparatus, and notwithstanding the static and other conditions, which made the operation of radio stations in the tropics in those days extremely difficult, radio communication would be practicable and would ultimately prove extremely valuable in the handling of such a highly perishable product as the banana.

RAMA AND BLUEFIELD ESTABLISHED

These two stations, while representing the best in radio equipment at that time, were far from perfect. Static, always much more severe in the tropics than elsewhere in the world, caused untold annoyance and often heart-breaking delays. However, the directors of the United Fruit Company did not lose their confidence in the commercial application of this new science, and, a year later, in 1906, authorized the construction of radio stations at Bluefields and Rama, Nicaragua, neither of which had telegraphic service sufficiently reliable to serve the purpose of the Company. These stations were erected and placed in operation that year, and handled not only all of the Company's telegraphic business but also approximately 90% of that of the general public between those places and the United States and Europe.

The Bluefields station is still in operation, and is handling the bulk of the telegraphic business of the general public between Bluefields, the United States and Europe. Bluefields is also now connected by government operated land wires with Managua, the capital of Nicaragua, which gives it a cable outlet to the outside world. The Rama station, situated on the Escondido River, about forty miles above Bluefields, was abandoned when the Company discontinued its banana producing and exporting activities in Nicaragua.

1907 - PRES. PRESTON AND V.F. KEITH DECIDE TO EXPAND SYSTEM.

Up to 1907 all of the United Fruit Company's radio communication had been confined to these four original stations at Port Limon, Bocas del Toro, Bluefields and Rama. However, as a result of the experience with these stations and the need for quicker and better communication facilities between the United States and the east coast of Central America, Mr. Andrew W. Preston, President and Mr. Minor C. Keith, Vice President of the Company, decided that not only the interests of the Company but those of the United States demanded that improved communication facilities be established, and that radio should be the means. Their ambition, voiced at that time and now all but accomplished, was to connect all the republics of Central America and Colombia, South America, by radio communication with the United States, either direct or by relay, so as to give hourly communication. The Company had demonstrated that radio communication was not only a useful adjunct to its tropical divisions, but to its steamship service as well. The Board of Directors accordingly authorized the equipment of the Company's steamships with radio apparatus of the very latest type.

It was planned that the United States terminal of this radio system should be at New Orleans and that a relay station be established on Swan Island. Accordingly, in 1907, the Company purchased from the United Wireless Telegraph Company their station at New Orleans, which was to be enlarged, and also their station at Burrwood, La., at the mouth (southwest pass) of the Mississippi River, about ninety miles south of New Orleans. This latter station was to be used principally for communicating with ships at sea, leaving the New Orleans station free for long distance work.

MUSGRAVE BUYS 10-KW UNITS FOR SWAN ISLAND, PORT LIMON & NOLA

In 1907 Mr. Musgrave again came to New York, and got in touch with Mr. Harry Shoemaker, then Chief Engineer of the International Telegraph Construction Company, and purchased from him a 10 K. W., 60-cycle spark apparatus for installation at Swan Island. Only a few stations were equipped at that time with transmitting apparatus of more than 5 K. W. power, and the design and manufacture of a 10 K. W. set was therefore a special undertaking. Mr. Musgrave also purchased additional equipment for the Port Limon station to increase its power. Two 200-foot self-supporting steel towers were also purchased for Swan Island and likewise for New Orleans.



CAPTAIN WILLIAM ROSE

Marine Supt. UFC, Southern Division from 1918. Many Radio Officers on United Fruit Co. ships will remember being hired or fired by this very nautical appearing gentleman. Capt. Rose was Marine Supt. of the Southern Division from about 1918 onward. Member Edward "Lee" Tilton [2124-SGP] took this picture while on the SS Santa Marta-KDBI in 1935. Lee told us ..."Captain Rose knew his stuff and would stand no nonsense but he was a 'fair and square' gentleman, very highly respected.

SWAN ISLAND "US" BECOMES MAIN RELAY LINK

Swan Island, which had been selected as the relay point, is an island about one mile

wide and two miles long in the Caribbean Sea about nine hundred miles south of New Orleans and ninety miles northwest of Honduras. It has no harbor, and the average ship cannot come closer than within one-half mile of the beach, while the larger ships must lay off nearly a mile. In the days of the Spanish Main, it was the headquarters of a group of buccaneers who ravaged the Central American coast, and there are yet evidences of their occupation of the Island. At the time of the establishment of the Company's radio station there, its only inhabitants were a Captain Adams and a few Grand Cayman laborers, who were shipping phosphate and growing coconuts for the Swan Island Commercial Company, an American company which owned the island. It is one of the most beautiful little spots in the Caribbean Sea, enjoying an even temperature the year round.

(Continued on Page 6)

ROY MASON - AUTHOR

The story reprinted here, titled "The Development of the United Fruit Company's Radio Telegraph System" by author Roy Mason was originally published in 1927 in a magazine called "Radio Broadcast", thought to be one of Hugo Gernsback's publications. Our efforts to reach Mr. Mason have been without success. Even though the copyright period has expired, we would like to give him credit if any one has his address.

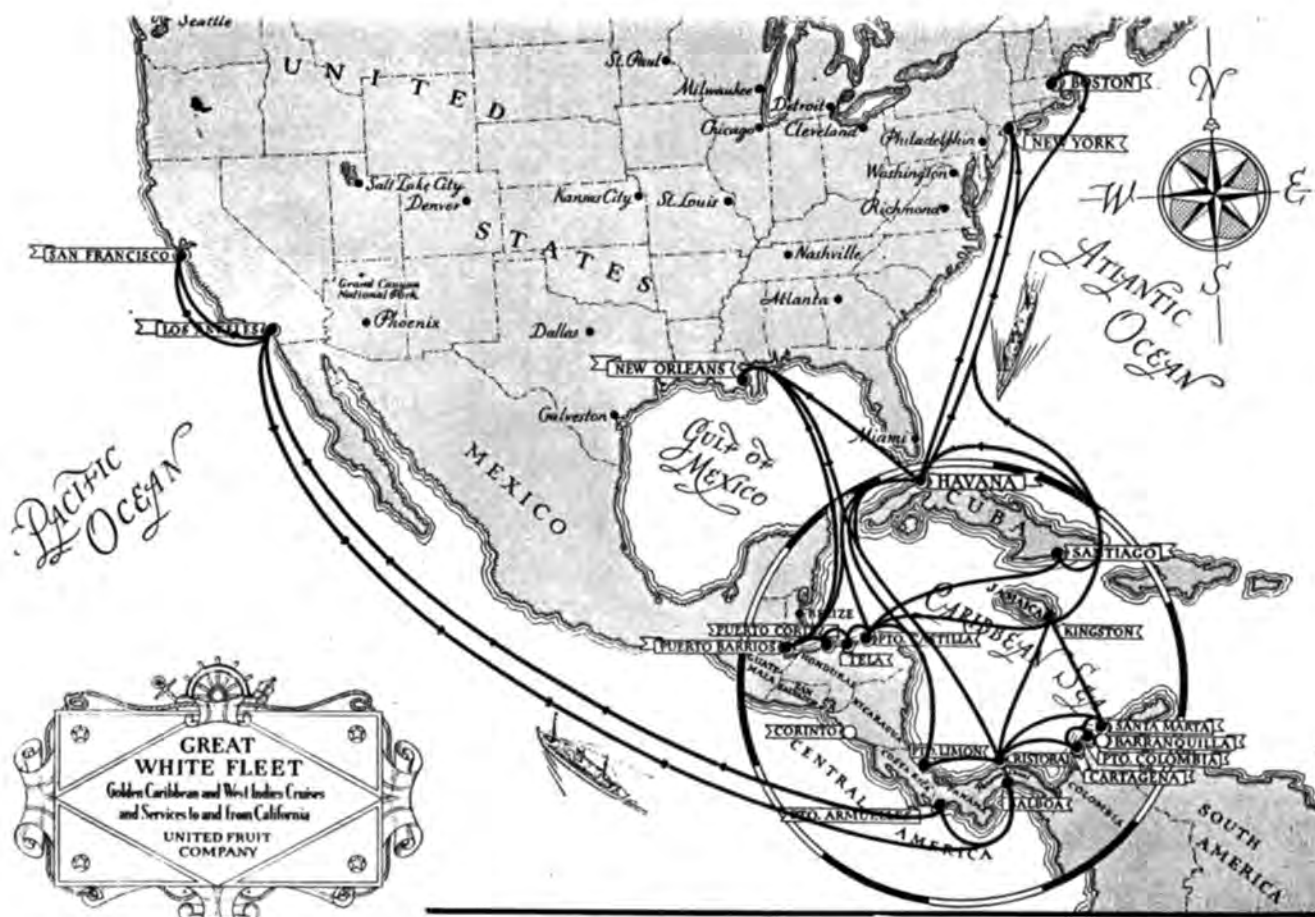
Society member Luther W. "Luke" Eldridge [2065-P] clipped the article many years ago and has kindly loaned it to us for use in this edition of Sparks Journal. Mr. Eldridge worked for TRT from 1927 until retirement in 1973. He was posted first at Santa Marta, Columbia (HJW) and then at Highham, Mass. WBF for many years.

I am sure that hundreds of SOWP members who have worked for UFC and TRT will enjoy the early history of the company they worked for... as well as the thousands of others who have exchanged traffic with WNU or at least who tuned in WNU faithfully for "PX" in by-gone days ... including Ye Ed. Even after a half century, it brings very pleasant memories.

Bill Breniman

PORTS AND PIERS

OF THE GREAT WHITE FLEET



New York...New Orleans...California Service...West Indies... Central and South America

STEAMSHIPS arrive and sail from Piers 3, 7 and 9 North River (foot of Morris to Rector Streets), New York; Julia Street Pier, New Orleans; Long Wharf, Boston; pier Fourth and Channel Streets, San Francisco; and Los Angeles Harbor, Pier 188 Wilmington.

The United Fruit Company's Radio Telegraph System

(Continued from Page 5)

As ships stopped at Swan Island only at irregular intervals, several months apart, and as everything had to be transported in rowboats on the open sea between the ship and the beach, the construction of the radio station presented many difficulties, particularly in the handling of the tower steel, oil storage tanks and the heavy engines and generators. It was therefore impracticable to ship materials piecemeal. A ship was accordingly chartered and everything necessary for the construction of the station was loaded and shipped at one time, accompanied by a construction gang. The erection of the plant required about eight months and it was placed in operation during the latter part of 1907. Only one man was stationed there at this time.

In those days radio communication was largely a matter of cut and try. Radio engineers and scientists, of whom there were then only a very few, had not yet acquired the experience nor worked out the formulae under which modern radio stations are constructed. They knew something of static, but had only a more or less vague idea of its tremendous volume and long duration in the tropics.

It was found that, while under favorable atmospheric conditions, the Swan Island station could communicate with both New Orleans and Port Limon, at certain seasons of the year, during the period of static (which prevails nine months out of the year and which is particularly strong on the longer wave lengths in the tropics) spark apparatus of the only type then available of 10 K. W. power was insufficient to maintain communication with New Orleans. The Swan Island station, however, was worth the effort and proved its value on many occasions.

GRASP FOR IMPROVEMENT.

Radical improvements came almost overnight in those days, and it was realized that the spark apparatus of the type so recently installed at both Swan Island and New Orleans would soon be obsolete. While the Company's ambition for uninterrupted and reliable communication between the United States and Central America had not yet been realized, the tests then being conducted by Professor Reginald A. Fessenden between Brant Rock, Massachusetts, and Machrihanish, Scotland, with his 500-cycle rotary synchronous spark sets, lent every encouragement. The 500-cycle note of the Fessenden transmitters came through the static much more readily than the 60-cycle note of the apparatus then installed at the Company's stations. Signals received at Swan Island and Port Limon from Brant Rock were of such a fine tonal quality and were so strong that it was apparent to the Company that a decided improvement could be made in their radio service by installing similar apparatus.

MUSGRAVE MEETS GEORGE SCHLEY DAVIS

Accordingly, Mr. Musgrave in the latter part of 1907 again visited the United States and got in touch with Col. John Firth, who was at that time the selling agent for the newly invented crystal detectors of Professor Greenleaf W. Pickard, and for other radio specialties. Through Col. Firth Mr. Musgrave met Mr. George Schley Davis, who was then in charge of the United States Naval Radio station at the Brooklyn Navy Yard. Mr. Davis, both

in his capacity as instructor in the Naval Radio School and as manager of the Navy Yard Radio Station, had been testing and reporting on all the various types of radio apparatus submitted to the Navy Department for test. Mr. Musgrave explained to him the communication problems of the United Fruit Company and requested his advice. The successful tests between the Fessenden stations at Brant Rock, Massachusetts, and Machrihanish, Scotland, and of other Fessenden apparatus coming under Mr. Davis's observation, led him to recommend that system.

FESSENDEN EQUIPMENT ORDERED

As a result, Mr. Musgrave promptly communicated with Professor Fessenden, and, in conjunction with him, mapped out a comprehensive plan for installing his latest inventions in the United Fruit Company's stations. It was also determined to erect a second relaying station at Cape San Antonio, Cuba. Accordingly the Company ordered from Professor Fessenden's company two 25 K. W. 500 cycle rotary synchronous spark transmitters, one to be installed at New Orleans and the other at Cape San Antonio, Cuba, which would give the Company a relay connection between New Orleans and Swan Island. If these two sets proved successful, similar sets were to be installed at Port Limon, Costa Rica, Santa Marta, Colombia, and Colon, Panama.

COMMUNICATION RANGE INCREASES

The Company at this time also ordered for each of its ships the Fessenden 2 K. W. 500-cycle rotary synchronous spark transmitters, which were the last word in radio transmitters. The Company was the first to put them into commercial operation on shipboard and they soon became known the world over, not only for the high-pitched tone of their sparks, but for the distances at which they were heard. Signals from the Company ships, while in the Caribbean Sea, were heard both in Port Said, Egypt, and by ships in the vicinity of Honolulu—a remarkable achievement in those days. The performance of these ship sets had a marked influence on ship installations in general, and other companies were soon installing ship sets having similar characteristics.

It is worthy of note and an index of the progress of the radio art that the Company paid from \$6,000 to \$8,000 each for these ship transmitting sets now costing \$4,000, and \$50 each for crystal detectors, selling to-day for \$2.50. The crystal detector receiving sets for which the Company paid \$500. each sell to-day for \$100.

The tube, as a detector and amplifier, had not yet come into use, and Dr. Lee De Forest was still experimenting at his New York laboratories in Park Avenue, with the "third element" of the present-day tube. At about this time also, Dr. De Forest was working in co-operation with Professor Thaddeus Cahill, who had established "Telharmonium Hall" at Thirty-second Street and Broadway, New York City, from which they were broadcasting music generated by Professor Cahill's telharmonium machine. This was probably the first time in history that music was broadcasted by radio for entertainment purposes, and it naturally attracted a great deal of attention. According to Mr. Davis, this music was successfully transmitted by radio from "Telharmonium Hall" to the New York Navy Yard Radio Station, and there transferred to the wire telephone and thus distributed to the various offices of the Navy Yard.

CAPE SAN ANTONIO

While the construction of a radio station in such an isolated place as Swan Island was very difficult, it was infinitely more so at Cape San Antonio, located at the extreme western end of Cuba. The only site available for the radio station was fifteen miles from the nearest native habitation and fifty miles from the nearest railroad. The Cape was infested with mosquitoes, sand flies, chiggers and almost all other known pests, and construction facilities were wholly lacking. Even the rock for concrete had to be hauled and then broken by hand, and sea sand had to be dug from the beach and the salt washed out of it before it could be used.

The Cape San Antonio station was planned for only one tower 250 feet high with an umbrella type antenna, an operating house and residence and a power and store house. All of the radio apparatus, tower steel, kerosene oil engines and building materials (except sand and rock) were loaded on a steamship at Baltimore and shipped to Havana, where they were transferred to a chartered schooner and transported to their destination. Cape San Antonio resembles Swan Island in only one respect, i. e., it has no harbor or wharf facilities and everything must be unloaded on the beach from rowboats and small lighters in the open sea. The apparatus and materials were shipped the latter part of 1908 and the station erected during the summer of 1909. The new Fessenden apparatus had in the meantime been installed at New Orleans, and communication between Cape San Antonio and New Orleans was established during this same summer.



Even with a 25 K. W. 500-cycle spark set, communication between New Orleans and Cape San Antonio, a distance of only 600 miles, suffered at times from delays due to the severe static, although, during perhaps six months of the year, good service could be maintained at night or in the early morning hours.

"VIA COLON RADIO"

The Company had not yet, even with the new Cape San Antonio and New Orleans stations in operation, attained uninterrupted hourly communication between the United States and Central America. It was during this period that the Company conceived the idea of a part cable and part radio connection between the United States and Central America to tide over the time until new and better radio apparatus could be developed and installed at its stations. The schedules of their steamships, equipped with 2 K. W. Fessenden radio sets, were so arranged that one of these vessels was in Colon harbor six days out of each week. These ships, while lying at the dock in Colon, could communicate with Port Limon and thus came into being the telegraphic route to Central America known as "Via Colon Radio." Messages over this route were sent by direct cable from New York to Colon, where they were delivered to the United Fruit Company offices and then to their ships in port for transmission to points in Costa Rica, Nicaragua and to Bocas del Toro via Port Limon radio. Service over this route was first established in 1909, and it materially decreased the time required for telegraph service between the United States and Costa Rica and Nicaragua, as well as materially increasing the efficiency of telegraph communication between these countries. This Colon radio service via United Fruit Company ships continued without interruption until the passage of the law prohibiting the use of radio transmitters on ships in Colon harbor. Since that time messages over this route have been handled through the United States Government Radio Station at Cristobal and thence via Port Limon.

It is interesting to note in connection with the "Via Colon Radio" route that during the Nicaraguan revolution against President Zelaya in 1909, when cable communication between the United States and Europe with Nicaragua and Costa Rica was interrupted at San Juan del Sur, Nicaragua, it was only by means of the Company's radio service, through its ships at Colon, that telegraphic communication was possible with those countries. This service, during the Nicaraguan revolution, was so important both to the Government and to the commercial interests of the United States that the Company exerted every effort to keep it going and secured for its ships the best land wire and cable operators in New York. This was prior to the passage of the law prohibiting the use of the American Morse code and requiring operators to be licensed, so that it was possible in those days to procure operators from a wire or cable office and place them on board ship, without previous radio training. Operating, while at the dock in Colon, was no sinecure; the noise from deck winches and the static made the work of these operators exceedingly difficult. However, during the period of the Nicaraguan revolution and for a considerable time thereafter, the Colon-Port Limon radio route was one of the fastest and most accurate telegraphic routes in the world.

TRANSITION - "STICK TO MILL"

It was during this period that the Company made it a standard requirement of its service for all receiving operators to transcribe radio messages directly on the typewriter. Although used in wire telegraph offices for a long time previous, typewriters had not up to this time been considered essential as a time-saving factor in the receipt and delivery of radio messages. So far as is known, this is the earliest adoption of typewriters as standard equipment for a ship or shore radio station, and the United Fruit Company was the first to make compulsory the use of the typewriter by radio operators.

HURRICANE DEVASTATES CAPE SAN ANTONIO STATION

During the hurricane season of 1909, the Cape San Antonio station was partially blown away. It was rebuilt but again seriously damaged by a hurricane the following year. It was again rebuilt, but in August, 1915, an unusually severe hurricane swept the western end of Cuba, completely demolishing the station. It was not again restored because of the refusal of the Cuban Government to permit the Company to move the station about fifty miles inland, out of the centre of the hurricane zone.



S.S. ULUA - WHDQ

This picture was taken by E.L. (Lee) Tilton circa 1937 while loading in Puerto Barrios, Guatemala. TRT has a station here, right in UFCO office, working point-to-point and also ship traffic. The ship built for UFCO in Belfast was completed in 1917 but taken over by the British government - renamed the HMT OCTANS/BOE. During WW1 she recrossed the Atlantic many times carrying US troops to and from Europe. She was returned to UFCO in 1920 with new call WHDQ. The Ulua had 2-sister ships, the SS Toloa and Tela. The Tela was torpedoed and sunk May 2 1917. The Ulua and Toloa survived the war but the Ulua nearly capsized arriving in New York when the Statue of Liberty was sighted and all 1200 homesick soldiers stampeded toward port-side view while the ship started to heel over slamming many to deck and alarming everyone. Both the Ulua and Toloa were placed on the NY-Caribbean run until 1932 when they were replaced by faster ships. They were assigned after a brief lay-up to NOLA-Tropics service until WW2 when the USN took them over and renamed the Ulua, the USS Octans - navy supply ship; mostly in Pacific waters. She was laid up in the James River after WW2 and finally scrapped. [Ref: The Great White Fleet by John N. Melville]

Early Days With The "Great White Fleet" & Tropical Radio Telegraph Company

GEORGE S. DAVIS JOINS UFCO AS CHIEF ASS'T. TO MUSGRAVE.

Early in 1909, it had become obvious to the Company officials that radio communication was of such permanent importance and their radio-construction programme had assumed such proportions that it required additional trained radio personnel. Mr. Musgrave therefore invited Mr. George S. Davis to join the Company's organization as his assistant. Mr. Davis secured his release from the Navy Department, and joined the Company in September, 1909. His first work was to organize the radio department as distinct and separate from the electrical department, and to rebuild the Cape San Antonio station, to complete the installation of the Fessenden radio sets on all of the Company ships and to supervise the experimental work and tests being conducted at the New Orleans station. What is believed to be the first commercial use of the famous Fessenden heterodyne invention was between Cape San Antonio and New Orleans during 1910 and 1911. New and improved receiving apparatus was installed at all stations at about this period, and additional transmitting apparatus installed at both Port Limon and Bocas del Toro.

DAVIS APPOINTED GEN. SUPT. OF RADIO DEPT. AS MUSGRAVE TAKES LEAVE.

In the latter part of 1911, Mr. Musgrave resigned from the Company and went to Alaska, returning about two years later to Seattle, where he died. To his persistence, in the face of discouragements and construction difficulties always encountered by the pioneer, is largely due what is to-day a very important link in commercial communication facilities between the United States and Central America. Upon the resignation of Mr. Musgrave, Mr. Davis was appointed General Superintendent of the Radio Department, the headquarters of which were moved from New Orleans to New York.

UFCO ACQUIRES INTEREST IN THE WIRELESS SPECIALTY APPARATUS CO

Also in this year the United Fruit Company acquired an interest in the Wireless Specialty Apparatus Company, established in 1907 for the purpose of exploiting the radio inventions of Professor Pickard. The Company had been paying high prices for its radio equipment, and its activities had grown to a point where radio laboratory facilities became essential for developing the ideas of its own personnel and particularly so that it could, in a measure control the design of radio apparatus particularly fitted to withstand tropical conditions. Since 1911 the Wireless Specialty Apparatus Company has supplied all of the United Fruit Company's transmitting apparatus up to 5 K. W. power and all of its receiving equipment. The United Fruit Company is now purchasing its high powered transmitting apparatus from the Radio Corporation of America. The General Electric Company later became associated with it in the Wireless Specialty Apparatus Company.

NEW STATIONS AT NOLA, SANTA MARTA & SWAN ISLAND RE-EQUIPPED

By 1911 certain parts of the New Orleans and Cape San Antonio stations had become more or less obsolete, and, as they did not fulfil all of the exacting requirements of the Company, it was decided to select a new and permanent station site at New Orleans where a more modern and powerful station could be erected, to rebuild and re-equip Swan Island in its entirety, and to establish a new high-powered station at Santa Marta, Colombia. Accordingly, a contract was made with the Marconi Wireless Company of America to furnish for each of these stations 50 K. W. 500-cycle rotary synchronous spark transmitting apparatus.

At New Orleans the site selected occupies twenty acres of ground upon which were erected four steel masts of the guyed Marconi type, 320 feet in height which permitted of the erection of a directional antenna measuring 300 feet by 600 feet, with an effective height of approximately 275 feet. The station buildings were of concrete and consisted of operating house, power house and machine shop.

At Swan Island the original site was enlarged to permit the erection of two additional 250-foot towers and an antenna similar to that at New Orleans. The height of the two original towers was increased to 250 feet. The construction of the new Swan Island station, on account of its location and lack of facilities, was no small undertaking. It was necessary to provide two 75 H. P. kerosene oil engines, and also auxiliary engines and generators for operating the small power radio set, as well as to provide electric current for the refrigerating plant, machine shop and also the beacon light which the Company maintains for shipping. It required approximately two years to complete the new station.

The Santa Marta station was identical in every respect to that of New Orleans, but here the construction difficulties were no greater than are usually encountered in tropical countries. The three new stations—New Orleans, Swan Island and Santa Marta—were placed in commission during 1912 and 1913 and are still in operation. Direct communication is maintained between New Orleans and Swan Island, the latter station acting as a relay point for stations in Colombia, Costa Rica and Honduras, as well as a relay point between Jamaica, Cuba and Central America.

In 1914 the transmitting-apparatus of the New Orleans station and the interior of the power house were damaged by fire. No time was lost by the Company in restoring this station and putting it on the most modern basis possible, which included the installation of 60 K. V. A. 500-cycle rotary synchronous spark transmitters.

In 1914 the transmitting-apparatus of the New Orleans station and the interior of the power house were damaged by fire. No time was lost by the Company in restoring this station and putting it on the most modern basis possible, which included the installation of 60 K. V. A. 500-cycle rotary synchronous spark transmitters.

In 1914 the transmitting-apparatus of the New Orleans station and the interior of the power house were damaged by fire. No time was lost by the Company in restoring this station and putting it on the most modern basis possible, which included the installation of 60 K. V. A. 500-cycle rotary synchronous spark transmitters.

HURRICANE SWEEPS SWAN ISLAND 130 MPH WINDS RECORDED

It was during this same year that a hurricane swept over Swan Island and blew down one of the towers, which was immediately rebuilt. In the following year a hurricane, which reached a velocity estimated at 130 miles per hour, blew down three of the Swan Island towers. Although the buildings, due to their steel, concrete and asbestos construction, were not seriously damaged, it was several days before the apparatus could be placed in commission and work resumed, using an antenna strung from the stubs of the towers. An idea of the unusual force of this hurricane may be gained from the fact that it blew down practically all of the coconut trees on the island, some of which had withstood the hurricanes and high winds of twenty years or more.

As a result of experience, it is the Company's idea that its radio stations should be so constructed that they will function at all times regardless of hurricanes, floods and earthquakes and can be relied upon when all other means of communication fail. Although the towers and buildings at both Cape San Antonio and Swan Island, as well as New Orleans, were designed to withstand the average hurricane, the experience with hurricanes at those places indicated that a much heavier construction and a different design should be used. They therefore called in Mr. A. W. Buel, consulting engineer, of New York, who had been associated with the design and construction of the Company's railway bridges in Central America. In cooperation with Mr. Davis, he has designed and the Company is now erecting towers which will withstand wind forces up to 140 miles per hour. These latest towers, which the Company has adopted as standard, are 420 feet in height, are self supporting and triangular in shape, and have at the top a bridge arm 150 feet across. The towers are designed to be installed with a span of 1,100 feet and to carry an antenna of 20 wires, each 1,000 feet long.

It is hardly surprising to find that all steamships of the "Great White Fleet," in addition to providing for the special comfort of passengers, have been equipped with the most modern safety devices and are prepared to meet almost any emergency. One of the precautions thus taken was to install on each steamship storage batteries as an emergency power source for operating the radio transmitter, and for an emergency lighting system to be used in case of failure of the main dynamos. With characteristic thoroughness, Mr. Davis selected this equipment as a process of elimination, the main considerations of which were reliability of operation under adverse conditions, and the fact that emergency power should be such as would enable the radio operator to obtain it instantaneously for the radio equip-



EDWARD L. (LEE) TILTON - 2124-SGP

"Lee" Tilton, Chief Radio-Officer in operating room of the passenger ship SS. SANTA MARTA - KDBI. This picture was taken in 1935. Historian John Melville informs that the Santa Marta was the 8th of 13 ships ordered in 1908 to be delivered. Her sister-ships included the Cartago, Parimina, Heredia, Abangarez, Turraiba, Atenas, Almirante, (Santa Marta), Metopan, Zacapa, Carrillo, Sixaola and Tivies, last of the series delivered in 1911. They were all 5000 GT, L-379' B-50', Speed 13K. Originally coal burners, they were converted to oil in 1922. "Lee" sailed on over 50 ships, mostly UFC. He also served at TRT Stations WNN-Mobile, WAX-Miami, WNU-NOLA and WBF-Boston.

ment as well as for the emergency lighting system.

Mr. Davis states that storage batteries seemed to come nearer these requirements (for auxiliary power purposes) than either steam or internal combustion engines, in that they could be brought into use by merely throwing a switch on a switch-board.

The installation of such an elaborate equipment is not compulsory but was made possible by the broad policy of the Company to leave nothing undone, regardless of the expense involved, for the safety and convenience of its passengers and crews. It was the first company to recognize the value of complete storage battery equipment in connection with the operation of the main radio apparatus on board ship, and to install on its ships a complete emergency lighting system operated from storage batteries. All of its steamships will finally be equipped with the Pickard radio Pelorus, which will enable the captains to determine their bearings from the radio beacon stations now being established by the U. S. Department of Commerce.

In 1914, the Company abandoned the old Burrwood, La., station and erected a new plant at a point nearer the mouth of the Mississippi River. The Burrwood station was originally intended for marine work, but, on account of its ideal location—from a radio receiving standpoint—in the marshes bordering on the Gulf Coast, the Company contemplates making it its principal radio receiving terminus in the United States, and from here remotely controlling the high-powered transmitter in New Orleans.

At the present Burrwood station there are two 250-foot towers set on a span of 650 feet,

a combined operating house and residence, and a power house. The only site available for this station, or in fact for any station near the mouth of the Mississippi River, is in the swamps extending for miles back. The towers rest on piles, as do the buildings and sidewalks. This station has thus far withstood the high winds encountered during the hurricane season, in the Gulf. It offers the most direct means of communication between the Southwest Pass of the Mississippi River and New Orleans.

1913 - TRT CO. ORGANIZED AS A SUBSIDIARY OF THE UFCO.

In 1913 the Tropical Radio Telegraph Company was organized as a subsidiary of the United Fruit Company to handle the radio business of its steamships and of its stations in the United States. The activities of this subsidiary company have since been extended to cover Honduras and Nicaragua.

In 1914 the Tela Railroad Company (a subsidiary of the United Fruit Company) opened up the banana district around Tela, Honduras, and a radio station for communication with Swan Island was constructed for that company. A year or two later a similar station was built for the Truxillo Railroad Company (also a subsidiary of the United Fruit Company) at Puerto Castilla, Honduras. Both of these stations, communicating as they do exclusively with United Fruit Company stations, are part of this company's radio system.

HURRICANE FURY

The partial destruction by hurricanes of the Swan Island station and the total destruction of the Cape San Antonio station was enough to discourage the average company from attempting to build against them, but these difficulties were finally overcome and the Company now has stations which it believes are hurricane proof in every sense of the word.

The report of the final destruction of the Cape San Antonio station by the 1915 hurricane is illustrative of the type of men employed by the United Fruit Company at its stations, and of the force of these storms. The following are extracts from the report made by John A. (Jack) Cole, one of the old-time radio operators who was at that time in charge of the Cape San Antonio station.

(Continued on Page 18)

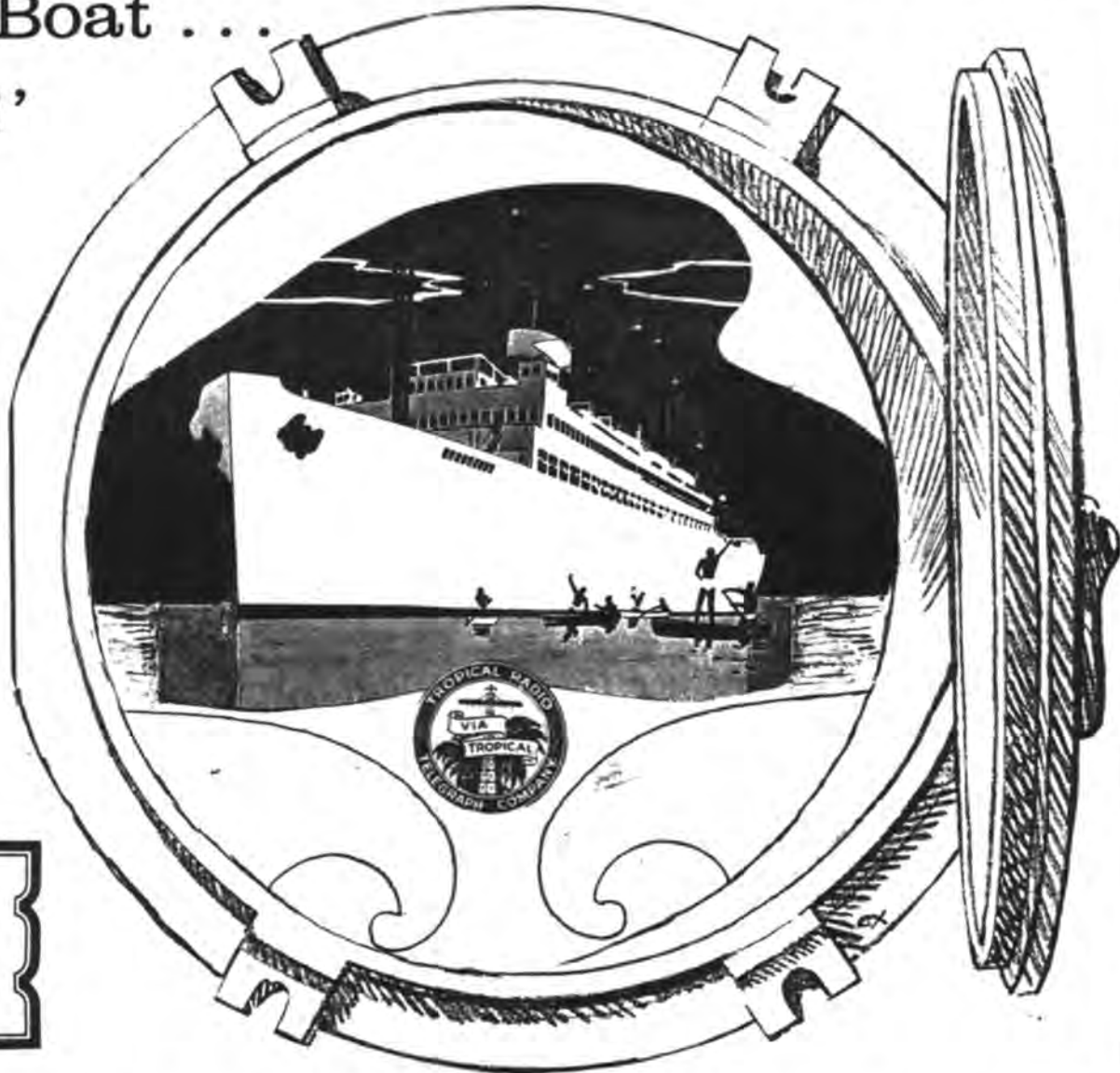


THE "EGYPTIAN MONOLITH" TYPE OF TOWER

Especially designed for the United Fruit Company to withstand wind forces up to 140 miles an hour, and now adopted as standard. These triangular towers, 420 feet in height, are self-supporting and have a bridge arm 150 feet across. They are designed to be installed with a span of 1,100 feet and to carry an antenna of 20 wires, each 1000 feet long.



'There's a Banana Boat ... out your Porthole!'



WALTER M. DROZDIAK
 Cadet Radio Officer SS Calamares-KDAW-1940
 Also served on SS Veragua, Parismina, Cartago,
 Antigua, Musa, Metapan, Esparta, Metapan and
 Atenas with T.R.T. on United Fruit Ships

I SAILED WITH TROPICAL RADIO TELEGRAPH

By - Walter M. Drozdiak - 172-V

As I slowly sauntered back to a little cubbyhole on Pier 7, New York City, in April, 1940, Mr. William Simon, the Chief of Operators at Tropical Radio Telegraph stopped me and bawled me out for being late coming back from lunch.

"But I was only copying press on the typewriter for practice as you told me to do," I said.

"Yes, but you still have to put in your time," he answered.

Why, I wondered. So I asked him: "Mr. Simon, am I getting paid for doing this?"

"Yes," he said. "You are on the payroll as of today and I want you to practice copying press until the CALAMARES comes in and then you will go out on her as a cadet radio operator with Pete Kruger."

Wow! Me -- a professional radio operator! I could have jumped for joy except the cloud I was walking on didn't give me enough footing. "Thank you, Mr. Simon," I finally managed to say.

Previously, I had been in contact with Mr. Villandre and Mr. Duffy of Radiomarine Corporation of America who sent me over to see Mr. Simon of TRT after an expedition deal RCA had sent me on did not work out. I was just out of college, and had left my new job as a school teacher in Stamford, Conn., to join the Fainestock South Sea Expedition in Panama. Their radio operator jumped ship there and they contacted RCA for a no-pay operator.

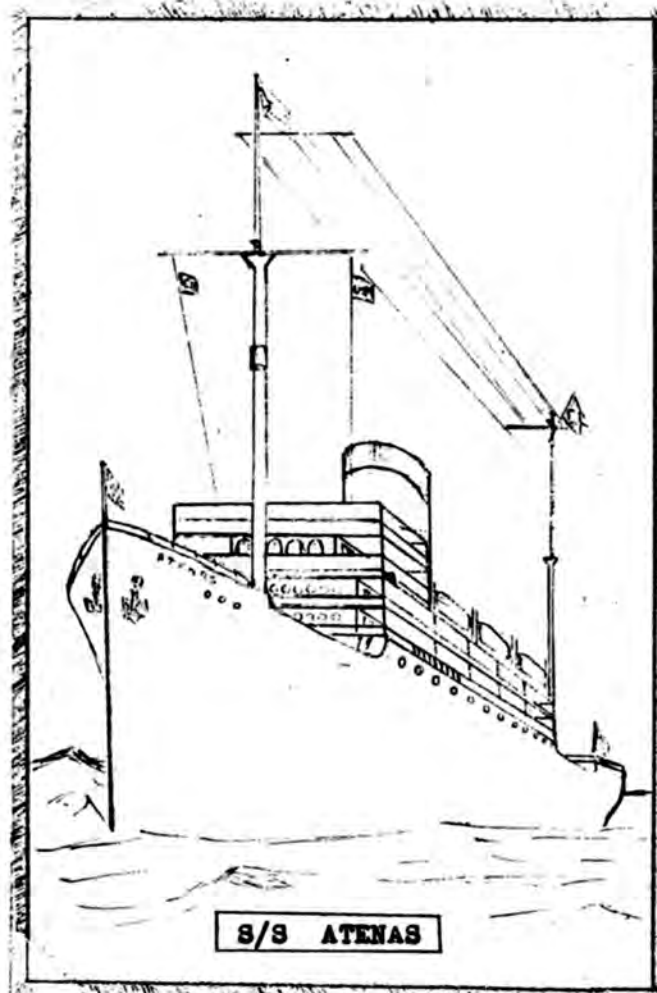
Mr. Villandre, to whom I had applied for a job, warned me there was no pay, but it might be an opportunity to get the six months' experience endorsement on my second class license which would then enable me to sail as radio operator. But lack of proper equipment on the three-masted schooner Director II made radio practically impossible, and I was shipped back to the States from Panama. Feeling sorry for me and advising me never to quit one job before I had another, Mr. Villandre sent me to TRT and Mr. Simon.

When I appeared before Mr. Simon, he told me to sit down at a typewriter and put on earphones. He said he would manually send me some press in Morse code and he wanted me to copy it directly on the typewriter. Having come up to a second class commercial radio telegraph operator license only through my own amateur radio study and experience, I was no expert code man and the first I tried to copy was individualistic indeed. What I produced was certainly not clean copy. When Mr. Simon stopped, he said, "Let me see what you got." I handed him the paper from the typewriter and thought, boy, I blew it and I'll soon be on my way home to Pennsylvania.

But Mr. Simon was reading the page very intently. "I made an error in sending," he said. "I want to see if you caught it."

Hope stirred faintly in my breast. "Yes. Okay," he said. "But you need more practice. Go over to that typewriter and receiver and tune in some press on the air and practice copying." So I did. But it was only later after I came back from a long lunch that I learned that I had been accepted for employment and was at last a professional radio operator, an ambition and dream I nurtured since I was a freshman in high school. On that first day in high school when books were issued, I looked through the science book and way in the back the last chapter was about radio. It showed a simple radio diagram and a picture of a ship and another of its wireless room and wireless operator. Immediately I made up my mind. I was going to be a shipboard radio operator.

However, finding a job as shipboard radio operator in 1939 was not all that easy. In fact, jobs of any kind were scarce. I found that out when I went looking for work after graduating from Bucknell University at Lewisburg, Pa. in June that year.



T.R.T. Story - Drozdiak

I hitch-hiked to New York City from my home in Shamokin, Pa. and trudged the waterfront shipping and union offices asking for work of any kind on board ship. The war clouds were darkening over Europe and when I finally landed a job as a teacher in Stamford, Conn., World War II broke out in Europe.

After teaching only a few months at a very low salary, I left when Mr. Villandre offered me the questionable job with an expedition. The U.S.A. was still neutral but American ships had the American flag painted on their sides and flew the flag at the stern lit up with lights to show it up at night. So when I finally went aboard the CALAMARES as cadet operator, it was with considerable trepidation on the part of my parents who were sorry to see me give up a nice safe job for a dangerous adventure into the high seas fraught with wartime perils.

Normally, the CALAMARES carried only one radio operator, but for training purposes, I was signed on as cadet operator. Pete Kruger, the senior radio operator, taught me the way things were done on Tropical Radio Telegraph ships. The ships were owned by United Fruit Company, as was TRT, and our main business was transporting bananas back to the States and carrying general cargo on outgoing trips. The freighters carried the usual 12 passengers, but the bigger ships like the VERAGUA, on which I eventually sailed, carried up to 100 passengers.

But the CALAMARES was my first ship and Pete Kruger was an excellent teacher, so I hold them both in high regard in my memories. Pete put me on watch, telling me to make an entry in the log at least every 15 minutes, and to note observing the silent period. As we proceeded south down along the east coast out of New York, I kept hearing a very loud signal working ships and so I would enter into the log the stations he was working. The operator had a swing to his fist and I had some trouble deciding what his call was. I entered it as WVR. Later when Pete came by and checked the log, he asked me who WVR was. Just then the signals came on the air on 500 KCS and I said to Pete, there he is. "Oh," Pete said, "That's WSC." Another lesson learned.

WBF in Boston was our main station for Unifruitco traffic and Pete emphasized that I should clear him regularly to pick up any messages for the CALAMARES whose call letters were KDAW. Since we carried short wave equipment as well as long wave, we were able to keep in touch throughout the Caribbean. Then there were WAX in Florida and WNU in New Orleans as well as the many other shore stations.

Pete showed me how to set up the typewriter for press copy so that when baseball scores and standings were transmitted, we could copy it direct in column headings, in six copies, so that it looked just like a newspaper set-up with American League and National League standings.

Original copy of press went to the captain and carbon copies went to the chief engineer, officer's mess and crew's mess and bulletin board and we kept the final copy to turn in to the office in New York on our return, along with copies of messages sent and received and other paper work dealing with equipment and work needed to be done on it.

One day when I was on watch, I received a message for the Master, CALAMARES. So I went up to the bridge with the single sheet but the mate said the captain was asleep and that he would take the message and give it to the captain later. But Pete showed me the correct way to deliver a message. You fold the message and put it in the message envelope and seal it. Then give it to the captain and have him sign the receipt flap on the envelope, tear it off and bring it back to the shack and staple it to the copy of the message retained, and then at the end of the trip, it and all others are delivered ashore to the office. On passenger ships you would push a button for a steward who came into the radio shack, took the envelope and delivered it to the addressee, got his signature, then brought back the signed receipt.

I learned about copying weather reports and getting them up to the bridge. At noon time, I learned how to buzz the bridge and give them the time tick, pushing the bridge button on each minute before noon and finally one long buzz right on the hour. One time when I was assigned on a busy passenger ship, I was getting a time tick and also doing other things when suddenly a steward showed up in the shack. Only then did I realize I was pushing the steward's button instead of the bridge button.

Pete told me about the "cow call." This was for getting the ship's position from shore stations via radio direction finders ashore. We would call the station and request a position report. When all the stations were tuned in on our signal, the headquarters station would say go ahead and then we would transmit "MO, MO, MO" continuously. This was the cow call during which time direction finding readings were taken on our signal. By land line they would report the readings to the central station who plotted our position by triangulating the readings of the DF's. Then he would call the ship and report the ship's position.

(Continued on Page 10)

Brochure published by T.R.T. in 1929. Graphics by W.O. Thoner.

TUNE UP

TROPICAL RADIO TELEGRAPH COMPANY

by **RADIO**

- 1 Operating room at Miami, Florida, where messages are sent to and received from all points in the world by Tropical Radio Telegraph Company.
- 2 One of the modern high-frequency or short wave transmitters used by Tropical Radio.
- 3 S.S. Calamares, one of the Great White Fleet, all of which are equipped with Tropical Radio apparatus, in constant communication with all shore stations.
- 4 Tropical Radio Telegraph station at Miami, Florida.



TROPICAL RADIO TELEGRAPH COMPANY

T.R.T. Story - Drozdiak

One day Pete said there was a service message to be sent to a shore station in Italy saying that a certain message they sent out had been delivered. As I relieved him, he told me to try to work the Italian. He said the station, IRA or call letters something like that, was constantly transmitting messages, but at the same time, using receiving antennas at separate locations, there were operators monitoring the calling frequencies. So if you wanted to raise IRA, just call on the allocated frequency and when IRA hears you, he would stop his transmission, give your call letters and say go ahead with your message. Then IRA would resume sending the traffic he had while you, too, were sending him your traffic. After you sent it and he received it, IRA would break his transmission, give your call letters and acknowledge receipt of your message and then resume transmitting his traffic.

So I gave it a try and lo and behold I raised IRA, got the message off and received his acknowledgment. It was quite a thrill. And I was pleased later when I told Pete I did it and he said it was fine work for a cadet operator to work Italy from the Caribbean.

We got to talking about foreign stations and their call letters and the various foreign flag ships around. For example, he said, the big British passenger liner QUEEN MARY, a ship with three smoke stacks, has call letters GBTT.

"Do you know what those letters mean?" he asked seriously.

"No," I replied innocently enough.

Just as seriously he said, "Great Big Triple Tits." I still laugh at that incident.

Today, of course, the QUEEN MARY is permanently docked as a tourist attraction at Long Beach, Calif.

After a month and a half as cadet on the CALAMARES where my wages were \$50 monthly, I was assigned as third operator on the S.S. VERAGUA with wages of \$130 monthly plus a 10% war bonus.

Subsequently I was assigned to other ships in the United Fruit Company's Great White Fleet. Among them was the MUSA flying the Panamanian flag, call letters HPCF. Her captain was George H. Grant, also author of several novels. I bought his books and he graciously autographed them for me.

Receiving conditions could be weird at times. Here let me quote from my diary: On board S.S. ANTIGUA en route Barrios, Guatemala Thursday, February 27, 1941. Conditions for radio communication took on a most peculiar complex today. After copying press easily from a strong signal from station WFD on 10470 kilocycles, the weather report from NAA was received only with great difficulty and a generous amount of cursing. At 10 a.m. EST, the time signals came through poorly, and by 10:20 a.m. the weakening signals plus an unusual amount of static for such high frequencies made copying a trying task. 500 kilocycles, the regular standby ship frequency was contaminated with heavy crashes of static though signals were heard as under normal conditions. Signals on the shorter waves, however, gradually began to weaken in strength, and at 11:00 a.m. EST, no signal whatsoever was heard on the band 30,000 to 12,000 kilocycles. As one

tuned to the lower frequencies, static became gradually more abundant, though on the first named band, only minute traces, perhaps even none were heard. Disconnecting the antenna produced a short click on make and break, but the result from the loud speaker was otherwise unchanged. I complained to the second operator, thinking that perhaps the receiver was not operating properly, but he informed me that other receivers on board experienced the same difficulty. About 12:05 EST (just after noon) slight recovery was made on frequencies of the order of 7000 to 12000 kilocycles, though 16000 and lower frequencies were practically dead though an occasional signal was heard.

Compared with the normal amount of static heard on 500 kilocycles (which it was throughout the morning), under normal conditions, static on the high frequencies would have been negligible. Today, however, those frequencies experienced about the same amount of disturbance as 500 kcs itself. This was the most striking feature of all, for the weakening of signal strength might have been a normal fading of signal. Cause for these unusual phenomena was attributed to sun spots which the officer on the bridge reported seeing. They were described as consisting of one rather large spot in the center of the sun; with about three or four small spots around the larger one. The third mate declared such spots appear on the sun about three or four times a year.

At 0500 GMT, ship's position was 22.45 north, 84.13 west, barometer 29.92, wind southeast three. At noon today (EST) ship's position was 19.54 north, 85.59 west, average speed about 16.92 knots.

The third operator on the passenger ships worked 8 a.m. to 12 noon and 8 p.m. to midnight. The morning watch was often very hectic what with having to copy weather and press and clear the various shore stations for traffic, plus getting off what messages were on the hook. We had to develop some time-saving techniques. One of these tricks was to copy press as scheduled, but when the press transmissions stopped for three minutes so ship stations could monitor 500 kcs for the silent period watch for distress signals at 15 minutes before and 15 minutes after each hour, this three minutes could be used to monitor 500 kcs on one receiver, and with the short wave equipment simultaneously contact shore stations to get off traffic.

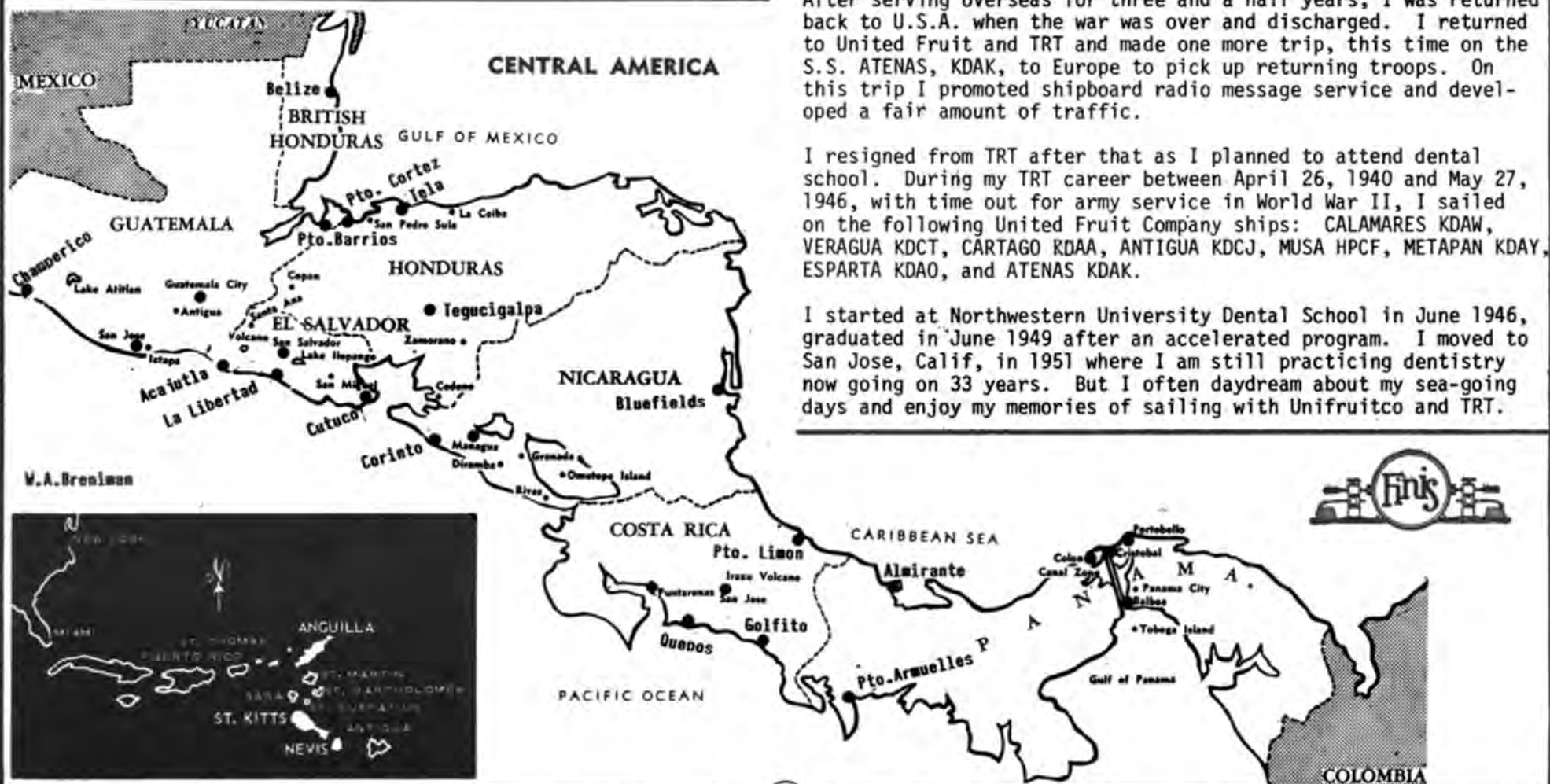
I never heard signals sent from a vessel in distress, although there were a number of times when 500 kcs was filled with "QRT SOS" in attempts by some operators to clear the air for the distress traffic. These were war times for European ships and torpedoing obviously did occur. One time I copied a distress message being relayed. I took the message to the captain and when he saw the position report, he said it was too far away from us and other ships would be nearer and better able to help.

Just before the attack on Pearl Harbor, I was ordered to active duty in the U.S. Army as a second lieutenant. I left TRT temporarily and served in the Signal Corps in radio intelligence which meant we listened in on the radio frequencies of enemy forces, copied their messages and deciphered them for information. This took me to Iceland, then to England, then to the continent, to France, Luxembourg, Germany and when the war ended I was just at the Czechoslovakian border. I was a captain in command of the radio intelligence company for XII Corps, a part of the Third Army under General George S. Patton. I served in the battles of Northern France, Ardennes (Battle of the Bulge), Rhineland and Central Europe, thus earning four battle stars. Also I was awarded the Bronze Star Medal for meritorious service.

After serving overseas for three and a half years, I was returned back to U.S.A. when the war was over and discharged. I returned to United Fruit and TRT and made one more trip, this time on the S.S. ATENAS, KDAK, to Europe to pick up returning troops. On this trip I promoted shipboard radio message service and developed a fair amount of traffic.

I resigned from TRT after that as I planned to attend dental school. During my TRT career between April 26, 1940 and May 27, 1946, with time out for army service in World War II, I sailed on the following United Fruit Company ships: CALAMARES KDAW, VERAGUA KDCT, CARTAGO RDA, ANTIGUA KDCJ, MUSA HPCF, METAPAN KDAY, ESPARTA KDAO, and ATENAS KDAK.

I started at Northwestern University Dental School in June 1946, graduated in June 1949 after an accelerated program. I moved to San Jose, Calif, in 1951 where I am still practicing dentistry now going on 33 years. But I often daydream about my sea-going days and enjoy my memories of sailing with Unifruitco and TRT.



"WNU" VOICE OF TRT IN NOLA



Per your request for info concerning the Great White Fleet and TRT - will try to give a little information. My own service there was as follows:

- 1934-1940 - Served on nearly every ship attached to Gulf division.
- 1940-1942 - Marine inspector at New Orleans. We covered everything from Jacksonville to Galveston.
- 1942-1947 - Inspector in Charge, based at San Pedro - covered whole Pacific Coast.
- 1947-1948 - Marine Inspector at New Orleans
- 1948-1971 - Attached to WNU, serving as technician at transmitting and receiving location. Wound up my days at Slidell, as plant engineer.

Unfortunately there are few people left who can give much information on the early days of WNU. Two of the old timers recently passed away. Ed Long who, for many years, was Chief Electrician, passed away a couple of months ago. Wes Hille who was tech, passed away just a couple of weeks ago. They were real "old timers" and I had known Wes since a young teenager.

Shortly after I started work at WNU, we started a program of installing new equipment. All of the gear on my arrival there was "home brewed," and had been scavenged from earlier GE equipment. The 500/448 xmtr was home brewed from the old 20 KW unit that was used on 90kc. It was rated at 5 KW. As I recall, the PA tubes were 849H's - the oscillators were '47's, but don't recall what the driver was. All of the PTP xmtrs had been scavenged from the earlier GE units, and were rated at 3 KW each. Two other units rated at around 2 KW each were completely home brewed, in cabinets about 2 x 4 x 7 feet; they were built prior to my arrival. They were still in use on my retirement, and have recently been junked. At the last, they used them on marine frequencies - one of them, on 2048 kcs, was the most frequent stable unit in use, varying only a couple of cycles from assignment. Some of the home brew xmtrs had been converted to FS operation, as WNU (various calls on PTP) was just getting into FS operation. We ran daily tests with WBF on TTY. In late 1948, we started installation of Westinghouse MW units for FS operation. These were rated at about 3 KW. We used rhombic antennae on PTP. These had amp factor of 7, so we spilled a pretty good sig to points as far away as Rio de Janeiro. The HF marine was rated at 9 KW for 500/478. The hf marine freqs were also placed on MWs. These xmtrs are all single frequency jobs.

I get just a bit ahead of myself. When I first came into the outfit, all receiving and xmitting equipment was located near City Park in New Orleans. Don't know the dates, but the xmtr site was located in Shrewsbury and receiving equipment at Harahan La. At a later date the xmtrs were moved to Kenner, La., putting the two sites about two miles from each other. Don't remember the date, but TRT started looking for new sites, and finally settled down to the present locations, receiving at Pearl River, La., and xmitting at Slidell, La. Slidell is approximately 35 miles northeast of New Orleans and Pearl River is seven miles north of Slidell. The buildings were completed in 1956 and we started putting in control and other wiring.

This took many months of hard work. On completion, we pulled the big switch at Kenner and Harahan sites at midnight, August 17, 1957. We had received an MF job for later use as emergency xmtr. Thus we used to have uninterrupted 500 kc coverage. We had a few of the HF MW's brought in from other locations, so we had a head start on that, but many had to be moved and in operation at 6 a.m. It was a real hectic night. Both of the sites were 20 acres, but some land has been sold from the Pearl River location. Slidell needs all the land for antenna farm. Since there is little PTP in operation, the rhombics have been "opened up" so that they are bi-directional, and most are used for HF marine frequencies. Since closure of WAX, those marine freqs were transferred to WNU and you will frequently hear two xmtrs operating in a "band."

Some time back all of the transmitting equipment was overhauled and modified to bring it up to the present "state of the art." Some outfit in Texas took one of the xmtrs over there and produced a prototype - then a crew came and made all the modifications. The latest thing is construction of beams for the marine HF freqs, which is presently going on.

Pearl River has a total of nine operating positions for marine, each one having its own key line. Don't know number on staff, but think there are 17 marine operators. Haven't been there in some time so don't know of people in other operations. Formerly there was traffic from New Orleans, being relayed to Panama for



"WNU"

Located on about 12-acres of ground. Rear building houses transmitting equipment. Front building was residence for plant Supt. Sign in front is one V.J. Cornelius made while working there. This property was sold to Archdiocese of Nola and now has church and school located thereon. The Harahan receiving station was located two miles down road to right. Photo by Cornelius

tropics and overseas via cable and satellite, via the old WAX receiving site which houses the big computer.

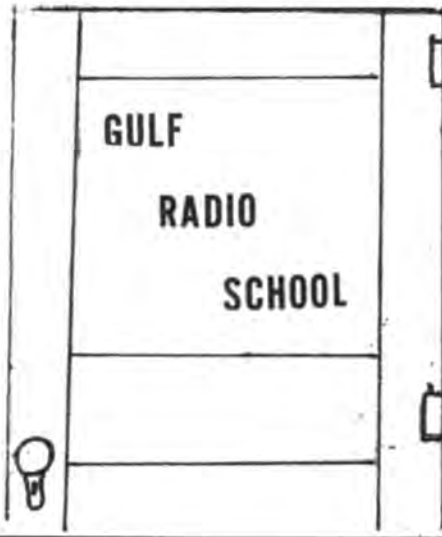
During my shipboard days, I visited many of the shore stations - Belize (operated by the British government), Puerto Barrios, Guatamala, Tela, Castilla and Puerto Cortes, Honduras, Puerto Limon, Costa Rica and Armuelles and Almirante, Panama. None of these stations had the two-letter calls at that time. Almirante was RXA, a high-powered station, stealing traffic from NAX and NBA. (They would take Port Captain msg free if you would give them other traffic to agent, etc.) One time I was at Swan Island but there was no equipment there at that time - that had two-letter call "US" -- US was used as relay point from tropics to Miami and New Orleans. There was also a station at Burwood, La. which acted as relay between US and WNU. There also was a station at Fort Morgan, Ala., which worked with station at Mobile, Ala. located on top of the Battle House Hotel. I think it was WNN.

(Continued on Page 40)



"WNU" TRANSMITTER - KENNER - CIRCA 1950

V.J. Cornelius who furnished picture says that this unit was in operation at time he reported for duty in 1948. Home brewed, These were frequency units (note sets of coils). These are two complete units with rectifier for power supply.. Cornelius reports these were originally built for telegraph but during his time were converted for frequency shift operation. They were originally given three letter calls but later were assigned three letter plus numerals - WFD and WFL became WKB20 and WKB30. Decommissioned, these units were shipped to the Dominican Republic, however it was reported they were dropped overboard from the ship while off-loading and not recovered. V.J. Cornelius collection.



DOOR TO ADVENTURE



The BIG OBSTACLE



This Legendary Nola School Provided Gulf R/O's For Over Half Century (1925-1976)

Gulf Radio School

By - Thurman E. Wilson

The Gulf Radio School of New Orleans, Louisiana, taught and supplied a large percentage of licensed Radio Operators sailing on ships of the U.S. Merchant Marine operating out of the Gulf of Mexico and other American seaports from the year 1925 through 1954.

The well-remembered founder, owner, and director of this institution, Wallace A. Clemmons, was so much a part and the "father" of Gulf Radio School that any history of the School would have to be a partial history of Mr. Clemmon's life.

Mr. Clemmons was born June 26, 1892, in Peace Valley, Missouri. His father was a farmer and stockman, but Wallace decided on another career. In 1910 he entered Finley Engineering College of Kansas City, Missouri, and completed a course in Steam and Electrical Engineering. Later, he enrolled in a Wireless Telegraph course at the old Marconi Institute in Cleveland, Ohio. After completing this course he then passed the Department of Commerce, Bureau of Navigation, examination for the Radio Operator Commercial First Grade License. The issuance date of this license was December 1, 1913.

Three months following this date, Wallace married his childhood sweetheart, Althea Elsie Lynch, who was to prove later to become a most efficient secretary and business manager at the School until their retirement in 1952. Mrs. Clemmons also knew the International Morse Code and could handle a code class when necessary. Incidentally, Mr. and Mrs. Clemmons had two daughters named Daisy and Katherine who both married graduates of the Gulf Radio School. Both of these young men became instructors and taught in the School for many years; I was one of them and Daisy Clemmons became my wife.

Following his marriage in 1914, Wallace Clemmons returned to the Finlay Engineering College, where he obtained a Bachelor of Electricity EE Degree and stayed on as a teacher in that College for some time.

During World War One he joined the U.S. Navy and served as radio-operator on the battleships U.S.S. PENNSYLVANIA, SOUTH CAROLINA and the sea-going tug U.S.S. RESCUE. He left the U.S. Navy after the War and continued to go to sea on ships of the U.S. Merchant Marine, once again as radio-operator. He sailed on board the S.S. SAGUA, S.S. LORRAINE CROSS, S.S. FAIRFIELD CITY, S.S. CASTLETOWN and the S.S. HEFFERON. The experience obtained while serving on board these many different ships, equipped with spark-gap, arc, and early vacuum tube transmitters, various types of radio receiving units, was to prove most valuable to Mr. Clemmons in preparing him in later years to teach courses in radio theory and radio telegraph operating.

It was during a time when one of his ships lay berthed in the Port of New Orleans that he met and became acquainted with Mr. G. A. DeCortin, the owner of the Nola Radio School. Soon after Mr. DeCortin offered Wallace the chance to become an instructor of radio telegraph operating at the Nola Radio School. Wallace accepted and worked as instructor at Nola off and on from August 8, 1923 until May 31, 1925.

Top Center

Code practice class at Gulf Radio School in New Orleans circa 1946. Instructor, Louis Guintard is standing in the background. Louis was the son-in-law of Wallace A. Clemmons, the schools Director. Mr. Thurman Wilson who furnished this picture was also an instructor of the school. He likewise was married to Mr. Clemmons daughter Daisy.

This period, we could say, was the beginning. Mr. Clemmons founded the Gulf Radio School on November 25, 1925. The School was conducted in a couple of locations before it finally moved to the two top floors of a three-story building at 844 Howard Avenue, New Orleans.

Mr. Clemmons developed and offered to his students a carefully planned course both in theory and practice of Radio Telegraphy and Radiotelephony. He did not believe in any high-pressure type of advertisement or salesmanship to "sell" his method of teaching to the public, but relied mostly on his graduates' word-of-mouth recommendation of the School. However, he placed a small ad in the old "QST" magazine and in the local New Orleans newspaper. If prospective students wrote to him for information about the Gulf Radio School, he would write and explain in detail what the School courses had to offer, the time required for classes, cost of course, etc.

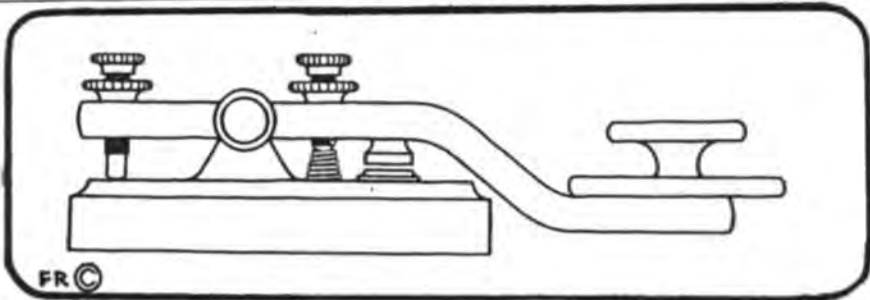
A great advantage to graduates was Mr. Clemmons having personal acquaintance with people interested in hiring qualified Radio Operators, at local offices of Mackay Radio, R.C.A., Tropical Radio Telegraph Company, the latter closely associated with the United Fruit S.S. Company which operated a large fleet of banana boats out of Gulf of Mexico ports.

Students came from all over the United States, as well as from foreign countries. One wonders why any person from North Dakota, Montana, or Utah would become interested in a career on board ships at sea, or "going to sea" as a means of earning their living. But they came, and in goodly numbers. A letter was received from India saying that one of the School's graduate radiomen on board an American ship had recommended the Gulf Radio School to him. The letter also suggested that because Mr. Clemmons was surely a very kind man, he would be willing to

(Continued on Page 13)



Graduating Class - Gulf Radio School - 1930 The school was then located at 844 Howard Ave., in New Orleans. Instructor Wallace A. Clemmons seated in center of second row, wearing a bow-tie.



Gulf Radio School

pay the writer's transportation from India to the United States and also the cost of a course in Radio Telegraphy!

It was possible for some of the students to "room" in the School dormitory, but many found rooms closeby in New Orleans boarding houses. It was remarkable how soon pupils became good friends, helping each other in their studies and generally getting along very easily.

Most of the students had to kind of watch their pennies and did not wander very far from the School. They found a gathering place at Pete's Restaurant, only a block further down on Howard Avenue. The Lyceum Theater on St. Charles was also a favorite place, a ticket in those days costing only ten cents! A few of the more worldly fellows might once in a while sneak over past Lee's Circle and find some fun on Camp Street. Speaking of Pete's Restaurant, if it was noticed any student was skimping on his food, we all knew there was a shortage of cash. However, if anyone mentioned this the answer would be that the student was dieting in order to qualify for a radio operator's job with Pan American Airways. It seemed that Pan Am in those days had a maximum weight limit for airborn radio operators -- they must not weigh too much or take up too much space!

Federal radio license examinations were held at the Custom House at the downtown end of Canal Street in those days. Mr. Clemmons and his instructors were very much against any student sitting for his qualifying examination unless they authorized him to do so. Mr. Clemmons was adamant on this. The pre-examination code test in International Morse Code was given to students at a speed of three words per minute faster than that required by the U.S. government qualifying code speed test. Also, he or Richard (Dick) Cole, or Floyd Hargus would really put students to a third degree type of quiz about radio theory and radio laws. If students passed this pre-examination quiz, their trip to the Custom House was approved by Mr. Clemmons. Should any student be found extra nervous, unable to do himself justice under pressure, especially in regard to the code test, Mr. Clemmons would go with them to the Custom House and take a seat just outside the examination room there. Just to see Mr. Clemmons sitting closeby seemed to calm the student. It was seldom that



WALLACE A. CLEMMONS

Mr. Clemmons established the Gulf Radio School in 1925. He was not only the mentor to hundreds of new students but became a "father" to many young men who studied at the school and passed their examinations in Radio Telegraphy and Radiotelephony to be licensed Radio Operators both ashore and afloat. This picture, as reported by Jock Maclaren was taken in 1945. Mr. Clemmons [Mr. Gulf Radio] became a silent key in 1964.

any student failed to pass the examination if Mr. Clemmons' rules were followed.

However, occasionally an overly ambitious student would "jump the gun" for some reason or other and attempt to pass the Federal examination at the Custom House before he was really ready for it. This almost always resulted in a failure to pass, and, by Federal rules, an extra three-month waiting period before the examination could be taken again.

The eagerness of students to pass their final government test brought some strange ideas along. Some Catholic pupils, anxious to receive all possible assistance would have their parents make a "Novena" for them! This is a Roman Catholic devotion consisting of prayers or services held on nine consecutive days. We knew little if anything about drugs in those days but one fellow came up with a guaranteed cure for pre-examination jitters; it consisted of a full glass of water with one teaspoon of ammonia taken an hour before the examination. When my own group of five students headed for the Custom House, we all downed our ammonia cocktail and waited the prescribed hour before going in for the examination. Well, by that time we all developed splitting headaches so bad we had no time at all to think of jitters! We all passed, by the way, but we paid the price! I forget what we did to the inventor of the ammonia cocktail -- I think we killed him!

The School had a large bulletin board in the hall on which was recorded recent new assignments of radio operators to various ships, and also existing vacancies. On receiving our new Federal licenses of which we were all quite proud, by the way, we all stayed close to that hall bulletin board. And old graduates, already having been to sea, while waiting for new assignments would come in to look at the bulletin board.

Naturally, there were many sea-stories to be told by the old graduates, while the newly licensed would-be radio operator from Oklahoma or someother land-locked place would be all ears and extremely impressed by it all. At times a graduate radio-operator would take a group of us down to the New Orleans wharves for a visit to his ship, which was a thrill for any neophyte radio operator, as you can imagine! It was also a thrill to hear his shipmates call him by the traditional name of "Sparks" with what seemed to be a great deal of respect.

(Continued on Page 14)



This is the earlier quarters of the GULF RADIO SCHOOL in Nola when it was at 844 Howard Avenue circa 1930. "Jock" Maclaren calls attention to the old type fire-escape on the front of the building. Many a young neophyte matriculated to the sublime position of ahipboard "SPARKS" from this venerable institution..

New Orleans, La. **Gulf Radio School** Radio Telegraphy
 Second Port U. S. A. Radio Telephony
 1007 Carondelet St. "Graduates all over the World" Radio Servicing



W5GR

Xmtr ----- Rcvr -----

Hello ----- Ur Sigs ----- CST ----- 193 -----

Remarks -----

73

Operator this QSO

Gulf Radio School - Wilson



THURMAN E. WILSON

The author of this article was the son-in-law of founder Wallace A. Clemmons. Thurman whose sine was "TW" also was an instructor in the school and took over as owner from 1952 until 1958. "TW" served on United Fruit Co. ships Olancho, Atenas, Copan, Coppenme, Zacapa, Choluteca and Tela from 1930 until 1934.

(Continued from Page 13)

Another really important service given by the School was that Mr. Clemmons himself, or a School instructor, at times an experienced old graduate, would, when a newly licensed graduate joined his first ship, go on board with him and help familiarize and show him over the ship's radio equipment. It is no wonder that Mr. Clemmons and his students were highly thought of.

The Gulf Radio School under the ownership of Mr. Clemmons was a successful venture and many old-timers in the radio-operating field were given their start beneath the eyes of Mr. "Gulf Radio". In the New Orleans area even today in 1982 there are a number of old "Sparks" who remember vividly their days at the School.

During the gloomy days of the Depression about 1933, however, enrollment at Gulf Radio sagged somewhat, causing a move to smaller quarters at 1007 Carondelet Street in New Orleans. Then, by the year 1938 enrollment picked up again and another move was made to 315 St. Charles. It remained at that address until a final move took the School to 137 Carondelet Street, just off Canal Street. This last quarters occupied the two top stories of the building and there was plenty of space for teaching several different courses, now including the new courses in Radio, Television and Color Television, as well as the original course of Radio Telegraphy and Radiotelephony.

Gulf Radio School reached its peak enrollment shortly after World War Two and into the early 1950's. During this period there were as many as 300 students enrolled, including both day and night-class students.

About this time, however, two events took place which damaged the successful progress of the School and were to prove instrumental in the eventual closing of Gulf Radio. The first event came when a new ruling adopted by the Federal Communications Commission in 1949 or 1950 which required all newly licensed marine radio operators to obtain what was termed a "Six Months Endorsement" upon their F.C.C. License before the radio operator could qualify to be signed on to any U.S. merchant ship as its lone radio operator. This meant that newly licensed radio operators must sail on board a ship under the direct supervision of a senior radio operator to obtain six months' sea-service, and thus qualify for the endorsement upon his license. The difficulty arose when it was realized that very few U.S. ships were required to carry more than one radio operator with the exception of a few passenger ships. Mr. Clemmons soon found himself faced with the problem of too many graduate radio operators and too few ships for job assignments. It gradually became an unsolvable problem and reluctantly the School's course in Radio Telegraphy had to be abandoned.



Harry A. [Jock] McLaren who has furnished the pictures for this article (loaned from the collection of Thurman Wilson) reports this building as the 'last resting place' of the Gulf Radio School. The building was located at 137 Carondelet Street in Nola. The two top floor of the building accommodated as many as 300 students enrolled at on time. Quarters were spacious and very adaptable to hold equipment and classes. The school finally closed its doors in 1976 after 51 years. Graduates of GRS staffed a large percentage of 'Tropical Radio's Stations including UFCo ships and were found all over the world. - 30 -

The second event was caused by the emergency situation created by World War Two. The U.S. government commenced to operate a number of radio schools, teaching Radio Telegraphy and Radiotelephony free of any charge to supply the sudden demand for trained radiomen in the war effort. Hundreds of young men attended these schools (there was one at Bay St. Louis in Mississippi) and, of course, any private radio school, charging fees for tuition, could not compete.

In the year 1952, 27 years after Mr. Clemmons founded the Gulf Radio School, he and his wife retired. Their son-in-law, Louis Guintard, who had been an instructor at the School, had already left to take a position with the Sandia Corporation in New Mexico. I myself took over the School at this time and continued to operate and manage it until August of 1958. In that same year it was sold to the three remaining instructors employed by the School and they operated it as a partnership to the year 1976, when it was found to be no longer possible to continue.

And so, the doors of the Gulf Radio School in New Orleans finally closed upon its many successes, the shadows of many eager young radiomen, and a thousand fond remembrances.... ■ 30 ■

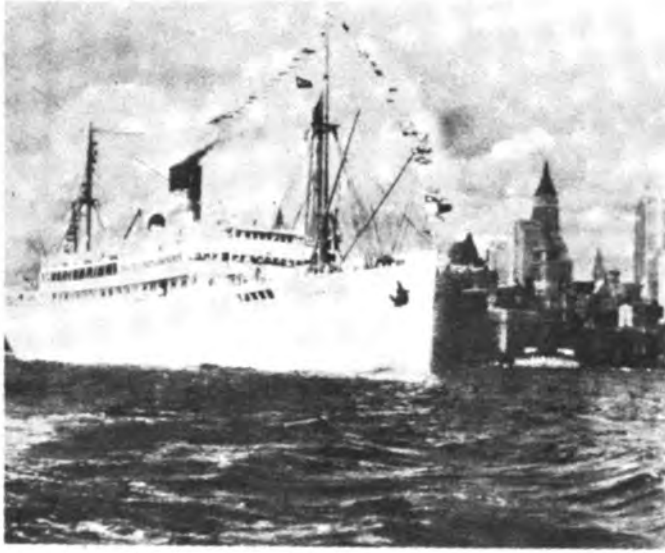


The Gulf Radio School also had an Amateur radio station with call W5GR (Gulf Radio) as far back as 1930 - see QSL card at bottom of Page 13. It was set-up in this building where typewriting was also taught and practiced by the students.

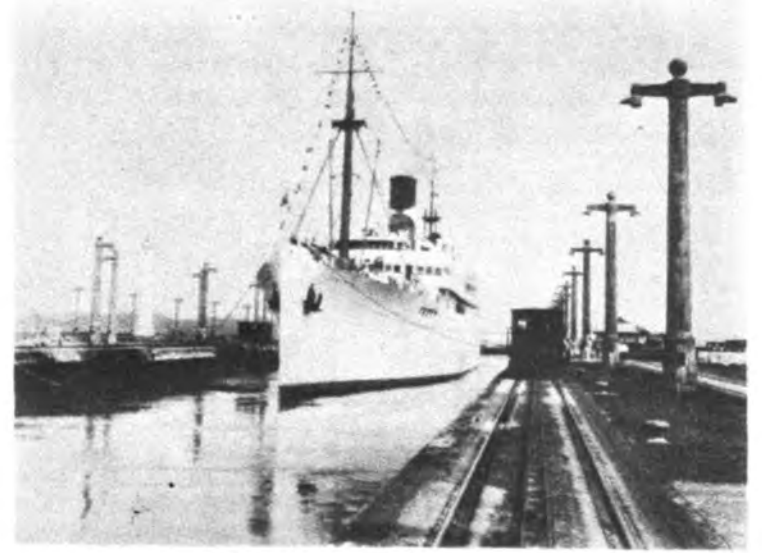
SHIPS OF THE "GREAT WHITE FLEET" PASSING IN REVIEW

SPARKS JOURNAL

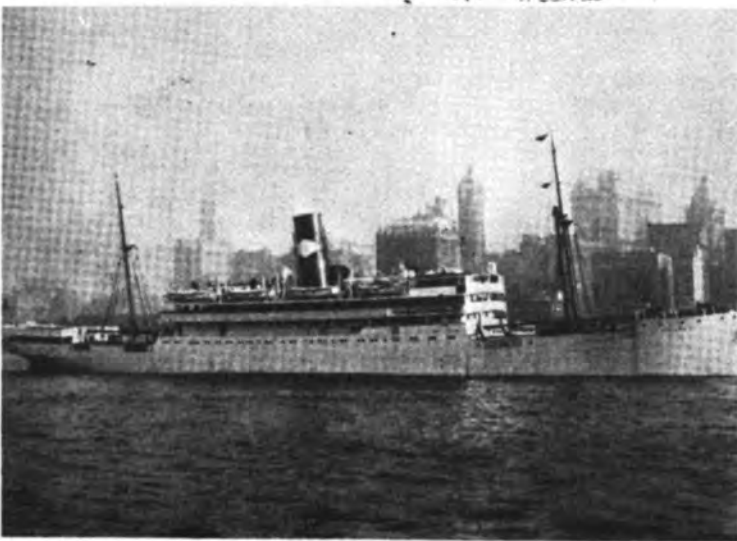
TRT/UFCO EDITION



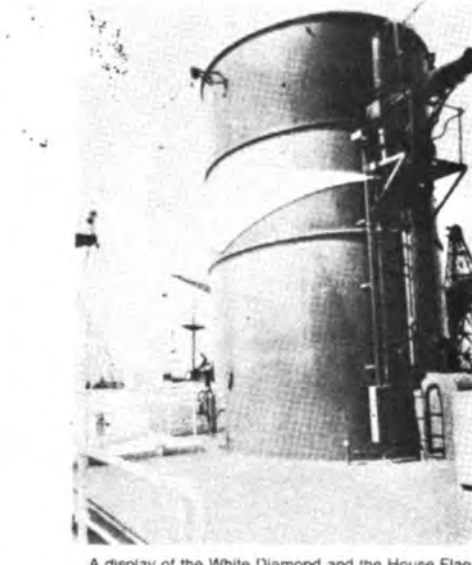
T.E.S. Veragua sailing from New York in full dress.



T.E.S. Talamanca in Gatun Locks, Panama Canal.



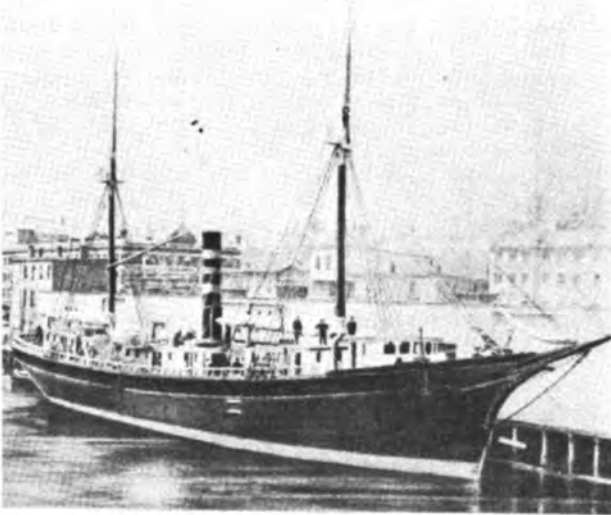
Outward-bound from New York, S.S. Sixaola.



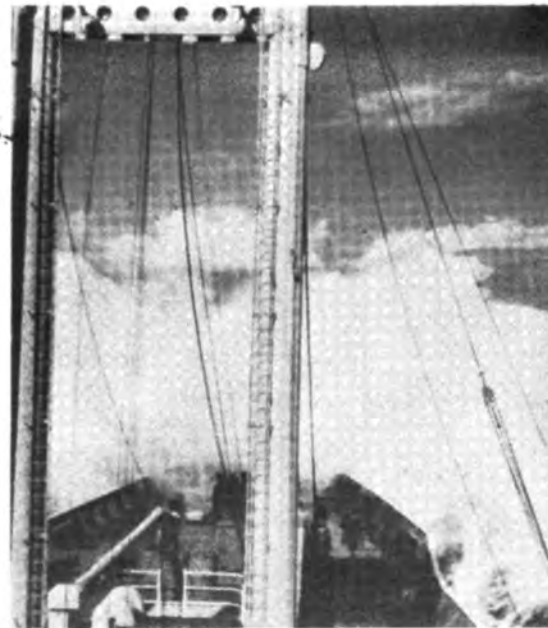
A display of the White Diamond and the House Flag.



The new Tenadores displays her Chiquita emblem.



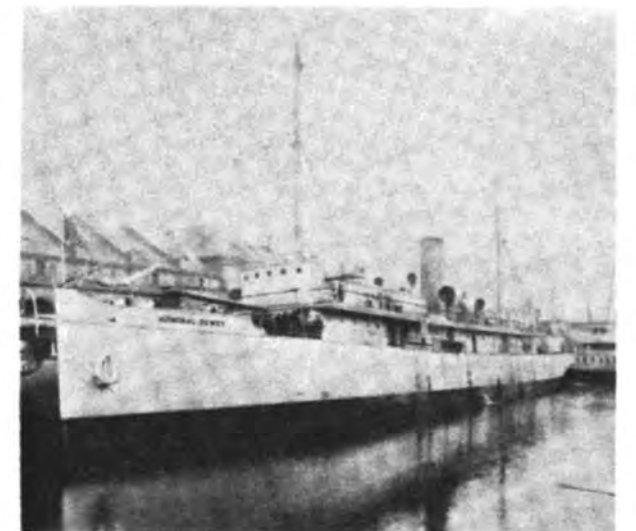
The steam schooner Lorenzo D. Baker.



The S.S. Cartago buries her nose bucking a head sea.



Homeward Bound, S.S. Santa Marta.



A tight squeeze. The S.S. Admiral Dewey at Long Wharf, Boston.



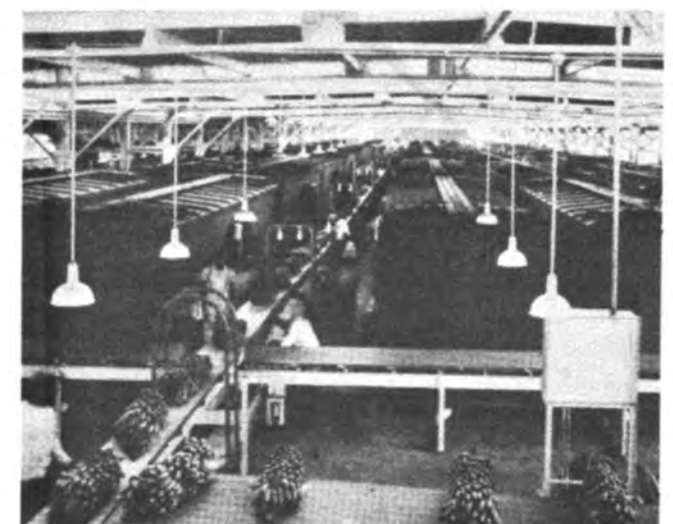
Captain Joseph A. Boyd, master of the S.S. Cape Ann during the Andrea Doria rescue.



S. S. Tola discharging military cargo on ice shelf, above the Arctic Circle, Greenland, World War II. (Courtesy of late Capt. W. A. Card.)



S.S. Tola breaking through the ice in Sondre Stromfjord, Greenland, 1942. (Courtesy of the late Capt. W. A. Card.)



Unloading bananas at Mobile, Alabama.



Select Passages from John H. Melville's Book . . .

"THE GREAT WHITE FLEET"

- Authority on Ships of The United Fruit Company



JOHN H. MELVILLE

The Ships and Early Central America

Until the late 1880s, when ships began making regular visits, many of the coastal areas of Central America were considered unfit for agricultural operations, and the nations forming that part of Latin America were some of the most isolated places in the Western Hemisphere. Their capital cities, towns, and villages—snug in the salutary climate of the highlands—were literally cut off from most outside contacts by natural barriers of swamplands and jungle that lay between the seashore and the foothills. This miasmic terrain, host to countless assortments of baneful pests and tropical diseases, was shunned by the natives, who feared to cross it; while those from the outside world refused to enter. Consequently, the soil within these bounds lay idle and unused, rejected by its people as useless wasteland.

At length bananas entered the field. This rare and exotic fruit had become very popular in the United States, and because the demand for it had grown beyond expectations, a search was started to find land suitable for expanding its production.

Bold men set out to explore possibilities: men fired with the urge to develop new territory; men such as Minor Cooper Keith, the railroad builder of Costa Rican fame; and others like him who dared look death in the eye time and again and continue toward their goal. Soon they discovered that the rich earth of the Latin lowlands was ideal for growing bananas. First, however, the areas must be made safe for human habitation; thus began the battle against diseases entrenched by ages of neglect.

To combat the deadly scourges, the ships brought men and equipment to the scene. Reckoned in terms of human life, it was a costly campaign. The angel of death, with its Pandora's box of tropical maladies, lurked in every fetid swamp and tangled jungle, ready to strike down anyone rash enough to venture beyond the shoreline of those lands. At last, after months of grueling effort, sanitation systems were established, swamps were drained, and methods for mosquito control instituted.

Meanwhile, the ships kept coming with materials and supplies. Among other implements, they introduced the machete to the tropics, that heavy swordlike knife from Collins of Connecticut whose keen edge hacked the clinging jungle from the land and cleared it for cultivation and settlement.

Remote bays and coves, surrounded by dense, uninhabited jungle, were transformed into seaports, to facilitate the handling of ships whose cargoes now contained a wide range of commodities. They brought the wherewithal to build wharves, bridges, and railroads, as well as houses, hospitals, churches, and schools. In their holds also were ploughs and livestock to work the land. To plant the new farms, other ships brought precious banana rootstock from Jamaica and other places where the fruit already grew.

Soon people ventured down from the highlands to settle around these sites, joining those already there, who had come from far places to work at bringing health and life to the land. Before long these settlements grew into flourishing towns as jobs became available and the population expanded.

Eventually, when the banana farms began producing, the ships were kept busy taking the fruit to market in the United States, principally to the ports of Boston, New York, Philadelphia, Baltimore, and New Orleans. On the return voyage to the tropics, various goods, mostly food and clothing ordered by the local merchants, were brought as cargo. Thus the banana industry became a key factor in the economic structure of the Central American countries, and although the United Fruit Company was a pioneer in the development of this enterprise, it was by no means the only concern engaged in the trade.

Ships were also necessary to the success of that gigantic undertaking by the United States in the early 1900s—the construction of the Panama Canal. On their southbound voyages, many of the early Great White Fleet ships gave invaluable service to this project. Whenever the canal-builders called for equipment, material, or men, the white-hulled ships came steaming in with whatever was needed.

It was the building of the Panama Canal that encouraged the United Fruit Company to undertake the development of banana cultivation along the Pacific coastlands of Costa Rica and Panama. As a result of this venture, the Great White Fleet became one of the canal's most frequent customers. Indeed, hardly a day went by without one of its ships being sighted somewhere along the winding route of this waterway.

Each time that the scorching flames of war ravaged the world, the Great White Fleet, known as *La Gran Flota Blanca* in Latin America, turned away from most of its peacetime occupation, to join the fight against tyranny. The ships then shed their snow-white garb of trade and donned the drab gray dress of battle. Although a few continued in the Caribbean service, many became troopships, and some were commissioned by the Navy as auxiliaries to keep the fighting ships supplied with food and stores. Others ranged the distant reaches of the seven seas, carrying munitions to men on the far-flung military outposts around the globe. They were attacked with torpedoes and shells from sub-



About the Author

For forty-four years before he retired in 1960, John H. Melville served with the research and marine departments of United Fruit Company, both at sea and on shore. On chartered ships, he was the company's representative, and on shore he investigated optimum methods for transporting the perishables that constituted the bulk of United Fruit's business. He authored an instruction manual for handling such cargo, and was responsible for fruit transportation procedures on all the company's ships, necessitating liaison with the production, transportation, and sales departments.

Mr. Melville was born in 1894 in Jamaica, West Indies, and grew up on a large plantation. He joined United Fruit in New York in 1916. After spending eight years aboard chartered ships, he joined the research department and, later, the marine department, ultimately working a total of twenty-four years in the New York Division and twenty years in New Orleans with the Southern Division.

He has traveled extensively to Central and South America, Europe, and the Far East, and now lives with his wife, Mary, in Boca Raton, Florida.

The Society wishes to thank Author John Melville for permission to reprint material and pictures from his book in the Society's Journal. We only wish we had more space to bring additional chapters for "Bufts of the Great White Fleet and Tropical Radio" to read. It is fascinating. Regrettably Mr. Melville informs us that most of the copies of his book have been sold (there may be a few left). We would suggest anyone interested, write to the Author (including a stamped, return addressed envelope) inquiring about availability of copies. It is possible he might consider a second edition. His address: Mr. John H. Melville, 1080 SW 2nd Street, Boca Raton, FL 33432.

We have used Mr. Melville's book as a reference for material listing "Ships of the UFC Fleet" which will be found on Page 15. We also checked a number of U.S. Government Radio Call Books for verification of calls used. It is possible that our listing is incomplete as we may have overlooked some of the UFC ships. However, I am sure many of our members who have sailed on ships of the Great White Fleet or worked for "Tropical Radio" will enjoy the listing for reference and perhaps nostalgic memories. Mr. Elmer Burgman, Staff Aide did most of the research work on this project. Our Thanks.

The Four Admirals, the Ships that Gave the Great White Fleet Its Name

marines, bombed and strafed by planes, shot at by surface raiders, and always there were the mine fields. Some of the ships survived it all; the many that did not met their destiny with colors flying.

The *Admiral Dewey*, *Admiral Farragut*, *Admiral Schley*, and *Admiral Sampson*, named for admirals of the United States Navy, were built in Philadelphia in 1898 by the William Cramp Ship and Engine Building Company, for the United States Navy. They were to have been used as dispatch ships during the war with Spain, but the war ended before the vessels were ready, and therefore the Navy offered them for sale.

The American Mail Steamship Company bought all four ships and leased them to the Boston Fruit Company, for their banana trade, on a ten-year, bareboat charter agreement—an arrangement wherein the owner generally furnishes the ship only, while the responsibility for personnel and operating costs are usually assumed by the party who charters the ship. As mentioned earlier, these were among the ships transferred to the United Fruit Company when that organization was established.

In size, speed, equipment, and appearance, the *Admirals* presented a wide contrast to the schooners and early steamers of the banana fleet. They were twin-screw, coal-burning vessels of 2,100 gross tons; length, 280 feet; beam, 36 feet; and speed, 14 knots. Each could carry 35,000 bunches of bananas and accommodate 60 passengers. Because their gleaming-white hulls and shining brightwork gave the *Admirals* a smart and imposing appearance, people soon began referring to them as the Great White Fleet, or *La Gran Flota Blanca*.

Their greater speed soon reduced the steaming time between Jamaica and Boston from seven to five days. Due to this achievement, they were selected to operate a United States Government-sponsored mail service from Jamaica, in addition to their commercial obligations.

The *Admirals* were the first ships to establish a regular passenger service for the company, and compared with passenger-ship standards of those days, they represented the ultimate in luxury. The convenience of having hot- and cold-running fresh water aboard ship had not yet arrived; hence passengers thought nothing of dunking in a tub of briny seawater and rinsing off with a pail of fresh, which had to be requested of the bathroom steward beforehand. Each morning before breakfast, the room stewards rushed in frantic haste from the galley stove to the cabins with steaming bowls of shaving water for the gentlemen passengers.

These were very popular ships with the seagoing public. Each winter, the Jamaica tourist season began when one of them arrived at Port Antonio with the manager, staff, and orchestra for the famous Titchfield Hotel, owned at that time by the United Fruit Company.

For many years this hotel, well known to most travelers, was considered to be one of the most luxurious and beautiful resorts in the Western Hemisphere. At some time during the 1940s it was purchased by Errol Flynn, the actor, who remodeled it and changed its name to The Jamaica Reef Hotel. Today, however, it stands in ruins, having been totally destroyed by fire in the late 1960s.

Indicative of the era of the *Admirals* are these entries found in an early inventory:

- 1 twenty-quart ice cream freezer
- 6 cuspidors
- 1 cigar lighter
- 1 large Chinese gong
- 1 20-second log glass
- 1 14-second log glass
- 1 bull's eye lantern

Today, most of these would be collectors' items.

The *Admiral Sampson* was sold in 1910 to the Alaska Steamship Company, later called the Admiral Line, and the *Farragut*, *Dewey*, and *Schley* were sold to the same company in 1913. Before sailing to the West Coast to join their new owners, the *Admiral Schley* and *Admiral Dewey* were altered so as to burn oil; consequently, they didn't go west until the following year, which delay afforded them the opportunity to be among the first ships to transit the Panama Canal. The *Admiral Farragut*, like the *Sampson*, was not changed to use oil fuel at the time that she was sold; thus her departure was not deferred. She left Philadelphia for Seattle on September 10, 1913—before the opening of the Panama Canal; therefore, like her sister, *Admiral Sampson*, she had to go via the Straits of Magellan. Both ships made the long passage of 13,800 miles in about sixty-two days.

The Changing Tide

The Great White Fleet has gone; the glamorous past is but a memory. Sailing Day, with its ceremony and excitement, has sunk into oblivion. No longer is music heard, nor is the flurry of last-minute preparations for departure graced by the presence of elegance and beauty as the ship, arrayed in her colorful flags, prepares to leave the safety of her berth and head toward the open sea. Today it's a tug and a pilot, with men to tend the mooring lines, that see her on her way.

Now that the advent of jet planes, space travel, and other technological developments in transportation have captured the scene, the old type of seagoing ship and the salty mariner have been brushed into the realm of yesteryear. With the speed of travel nearing that of sound, man's mobility has increased accordingly. As a result, with the exception of pleasure cruises, the importance of water transportation is mostly confined to large-scale commercial enterprises.

Ships also have changed in character and design to suit the shifting tides of trade. Some, like the oil tankers, have grown to immense size—so large indeed that few ports in the world can accommodate them. Not so long ago, a ship of 80,000 tons was considered a colossus; today there are tankers registering over 300,000 tons. Yet, even though ships that size may seem fabulous, certain petroleum interests are seriously considering building behemoths ranging up to one-half million tons.

The modern trend being toward larger and faster ships, mostly designed for specific trades, a new concept relating to economy and efficiency of operation has developed. Since automation plays the dominant role in these improvements, a minimum of manual effort is now required.

With these innovations, seafaring too has bowed to the varying winds of custom, so that the time-honored emotional tie of man's devotion to his ship now seems to lie, deep and still, in Davy Jones's locker.

On the other hand, the natural forces to which the ships of the world are subject have paid no heed to the variations in trade or custom, their habits remaining unchanged by time. The fickle wind and the changeless sea still rage at each other in furious combat, devastating everything within their path until, their fury spent, a calm prevails, and they seem to meld with each other in a languorous embrace.

TROPICAL RADIO TELEGRAPH COMPANY is now...

(Continued from Page 7)

About 3:00 P. M. on September 13th, I took a barometer reading and noted that it was unusually low, about 29.60. At 4:00 P. M. I was in communication with Swan Island and ascertained that his barometer was also low, and suggested to him that we get special weather observations off to the Weather Bureau at once. I immediately sent these messages to the Weather Bureau via New Orleans, repeating them again on the night schedule. Everything was made in readiness to withstand a storm and I also made up monthly reports together with the Weather Bureau report in order to have them ready if anything happened. These were fortunately saved and were later forwarded from Havana.

On the morning of the 14th the barometer was still dropping and I got in touch with the ships who gave me their reports and observer messages. The barometer was falling and the wind increasing and a few minutes after communicating with Swan Island, the wind increased in velocity and blew down a portion of the aerial. In the meantime, repairs having been made, storm warnings had been sent to all ships and were being repeated at intervals. About 9:00 A. M. the entire aerial was blown away and from that time on the wind blew stronger and stronger and about 11:00 A. M. was blowing with hurricane force. The Cuban Government wind gauge had by this time been blown away, but I judged the velocity of the wind was not less than 100 miles an hour and the barometer still falling.

Our kitchen was the first to go, then the gas plant, warehouse and roof of water storage plant were blown down, and some of the iron roofing carried for miles into the woods.

Next the tower, which had been guyed with four 1" steel cables, broke in two about half way up, breaking the guys which blew straight out with the force of the wind.

The roof of the operating house was next blown off and the windows and doors blown in. Myself, the cook and engineer were inside at the time and we then took shelter in the engine house. The operating house, although of steel construction on concrete foundation, was moved about 8 feet off of its foundation. The roof and floor of the veranda were wrenched from the house, but the house itself stood, although badly damaged.

The engine house, where we went for shelter, stood only about twenty minutes after we got there. This being the last house, we started for the woods.

The radio log entry of Mr. Cole at this juncture tells perhaps more vividly than anything else could what happened.

"Part of antenna blown away," reads one entry; "made repairs". A little later another entry reads: "Antenna gone." "Storehouse gone." "Operating house gone." Then a fourth entry records a similar catastrophe to the engine house.

The final climactic summary reads:

"Everything gone, we are going to the woods."

Then he buried the station records and the radio log, and, with R. C. Attaway, the engineer, started for the woods about 400 yards distant. Continuing, Mr. Cole says:

BAROMETER - 27.6

"We got a little protection behind some large stumps. After being there for about an hour, there was a lull. The wind subsided and we returned to the station. We found that the Cuban Government barometer (the United States Government barometer was destroyed early in the storm) which has a scale graduated to read from 27.0 to 32.00, was down to the lowest mark; in fact, the indicator was against the pin at 27.6. I do not know how much farther it would have gone if the pin had not been there.

When I found that the barometer was as low as it would go, and the wind again increasing, we decided to go to the lighthouse, three miles away. This is a stone structure and we thought it would stand. In the meantime the wind had gotten stronger than ever. It took us about four hours to reach the lighthouse, which we did at 7:00 P. M., having had to crawl most of the way amidst flying sand, timbers, falling trees, etc. On our arrival at the lighthouse we found that the prisms had been blown in, putting the light out of commission. We found there the wreck of a Honduranian schooner. The captain had come in as close as he could get, but before he could get a boat out, the anchor chain parted and the vessel started out to sea. All hands jumped overboard and somehow got ashore. The vessel was blown to sea and disappeared in less than 30 minutes.

We spent the night at the lighthouse and returned to the station on the 15th, finding that all provisions, furniture and kitchen utensils had been destroyed or buried under the sand. About 10:30 A.M. a native family, carrying five dead bodies, arrived at the station on their way to the lighthouse. This family, named Soto, who had lived in this locality for three generations, lost five of their number during this storm.

We endeavored to clean up a bit and get a place to sleep, but the mosquitoes, gnats and crabs which invaded the house, would not permit.

On the 18th I hired a small sailboat and started for Arroyos, 50 miles distant, but a few miles out sighted a Cuban revenue cutter, which took me on board and landed me at La Fe at night, from which place I proceeded to Havana.

THE WHITE DIAMOND . . .

For decades,
the White Diamond
and three horizontal black
stripes distinguished a fleet of
ships which pioneered and then dominated the
banana trade between this country and Central America.
Kept in splendid shape and manned by topflight crews
the ships had long, useful lives -both in
peacetime and during the world
wars!

SYMBOL OF A PROUD SERVICE

USWB EXTENDS SERVICE TO GULF AND THE CARIBBEAN

Until some ten years ago, the United States Weather Bureau had been without adequate weather reports from the Gulf of Mexico and the Caribbean Sea, and, during the hurricane season, August 15th to September 15th particularly, the lack of such facilities was a great handicap to merchant shipping in those waters. The United Fruit Company had inaugurated, as a part of its own radio service, a system whereby its ship captains kept each other advised as to weather conditions encountered. With the cooperation of the United Fruit Company, the U. S. Government was enabled to extend its Weather Bureau Observation Service to all the Company ships and shore radio stations. All the ship captains of the "Great White Fleet" were appointed special deputy weather observers, as were the chief radio operators at Burrwood, La., Cape San Antonio, Cuba, Swan Island, and Bluefields, Nicaragua. Weather observations from the Company ships and from these shore stations are made twice daily, and relayed through Swan Island and New Orleans and thence by wire to the Weather Bureau in Washington. These weather observations, in addition to those received by cable from the Windward and Leeward Islands by the Weather Bureau at Washington, enable it to report accurately the occurrence of hurricanes, plot their tracks and determine their force, and thus to issue reliable storm warnings for the information of all shipping and for the Gulf Coast of the United States and for Cuba, which has resulted in the saving of millions of dollars in property and of many lives. These storm warnings are broadcasted in the Gulf and the Caribbean Sea by the United Fruit Company radio stations for the benefit of all shipping, and it not infrequently occurs that, through information thus disseminated, ships are enabled to steer clear of hurricanes or can be held in port until the storm has passed.

PROGRESSIVE PLANS TO UPGRADE COMMUNICATION SERVICE IN AREA SCHEDULED.

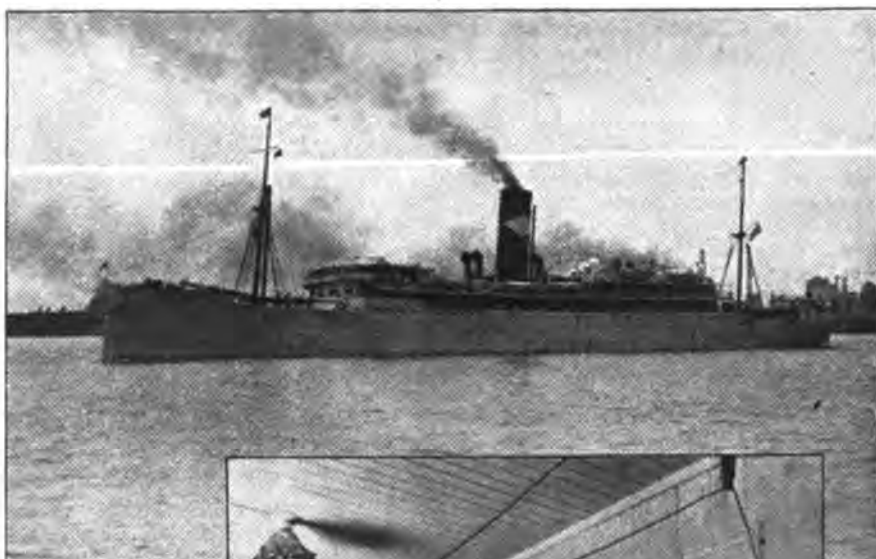
While the Company's project for direct radio communication with Central America has been attained, owing to the recent marked improvements in radio apparatus it now plans further to improve its service by completely rehabilitating all of its ship and shore radio stations, with the end in view of ultimately establishing radiotelephonic communication with Central America. All of its Central American stations will be open to the public as soon as the necessary permits are granted by the respective governments.

Its radio building programme contemplates the installation of tube transmitters for both radiotelegraphic and radiotelephonic purposes on its ships, enabling passengers to talk with the shore from their staterooms at any time during the voyage.

NEW TUBE FACILITIES INSTALLED AT MANY STATIONS

The Tropical Radio Telegraph Company is now erecting in Tegucigalpa, the capital of Honduras, one of the most powerful tube transmitting stations on this continent, which it is expected will be in operation by December of this year. It is interesting to note in connection with this station that the 420-foot steel towers, radio apparatus, oil engines and building materials must be shipped to Amapala, Honduras, on the Pacific coast, where they are lightered ashore and then hauled over an 80-mile mountain trail to Tegucigalpa. Steel gangs and installing engineers have been sent from the United States.

Powerful tube transmitting apparatus will also be installed at New Orleans and at a new station which the Tropical Radio Telegraph Company proposes to erect in the vicinity of Miami, Florida.



THE "S. S. PASTORES" OF THE "GREAT WHITE FLEET"



RADIO OPERATOR'S ROOM ON THE "S. S. PASTORES"

The Tropical Radio Telegraph Company plans to have in operation in 1924 a tube transmitting station at Managua, the capital of Nicaragua, which will give direct communication with the United States through Miami and New Orleans.

Later, similar equipment will be installed in Colombia, Costa Rica, and Swan Island, and possible in Cuba, so that probably by 1925 this great radio system will have been completed and the plan of the United Fruit Company to provide the general public as well as itself with a fast, reliable and instantaneous means of communication between the United States and Central America and Colombia will be complete. Further, what is perhaps of more importance to those countries, it will bring together out-of-the-way places and thus pave the way for closer commercial and political relations between the Americas.

The United Fruit Company has spent more than \$3,000,000 in the development of its radio system, and upon the completion of its projected radio building programme its investment in radio will probably exceed \$4,000,000.

HIGH STANDARDS FOR RADIO OPERATORS ASSURES "SELECT GROUP"

Radio operators in the service of the Fruit Company are all carefully selected men trained to meet its special requirements and to uphold the high standards of the Company. On its ships the radio operators rank with the pursers and have excellent cabin accommodations. The salaries paid to ship operators are based both on their ability and on length of service with the Company; chief operators receive from \$105 to \$140 per month and second operators from \$85 to \$105 per month, and found.

In the tropics the company provides living quarters for the operators, and for their families in localities where it is possible for an operator to have his family. The salaries paid to chief operators in the tropics range from \$150 to \$250 per month, depending upon the length of service and assignment. At Swan Island the company also maintains the mess and furnishes a cook and mess attendant.

Operators in the tropics are given an opportunity to learn the banana business from the ground up. One of the Company's former operators is now a banana farm superintendent in Honduras; one is the president of a well known radio manufacturing company; another is secretary of a steamship company and others have been promoted to other responsible positions on shore and to pursers and engineers on shipboard.

It is no exaggeration to say that today the United Fruit Company is organized around its ability to communicate quickly by means of its own communication system, without which the conduct of its shipping, but more especially the banana business, would be seriously interfered with, since it enables the management to keep in close touch with its outlying divisions and thus to advise them instantly on the conditioning, cutting and shipping of bananas. Through the use of radio the cutting and moving of bananas to seaboard in the tropics can be timed to coincide with the arrival of steamships at the loading ports, and thus the losses which would result from cutting this perishable fruit too soon are reduced to a negligible sum.

(Continued on Page 18)

TROPICAL RADIO TELEGRAPH COMPANY

(Continued from Page 18)

The conception and carrying out of its radio policy was a big thing not only for the United Fruit Company but for the commercial interests of both the United States and Central America, and great credit is due Mr. Preston, Mr. Keith and the Board of Directors for their foresight and courage which enabled the Company to complete, in the face of tremendous discouragements and adversity, a construction and operating programme of such far-reaching importance. It is characteristic of the true American spirit of initiative, and indicates what can be accomplished by American enterprise abroad. It also demonstrates the mutually beneficial results which can be secured through the development of a great public utility by private initiative under wise government regulation rather than under government ownership and operation.

Since 1911 the radio activities of the United Fruit Company in all its branches have been under the immediate direction of Mr. George S. Davis, who is General Manager of their Radio Telegraph Department. He is also President of the Wireless Specialty Apparatus Company, General Manager of the Tropical Radio Telegraph Company and a Director of the Radio Corporation of America. He is a Fellow of the Institute of Radio Engineers and a member of various other scientific organizations.

While in the United States Navy, Mr. Davis became interested in electric propulsion for steamships, and, largely as a result of his initiative, the United Fruit Company decided to give electric ship propulsion a trial. Their newest steamship, the *San Benito*, was accordingly equipped with electric drive by the General Electric Company, and has proven so satisfactory that additional ship tonnage when built will probably be propelled by electric machinery.

WILLIAM E. BEAKES

Assisting Mr. Davis in the Company's radio engineering and construction work is Mr. William E. Beakes, Chief Engineer of the Radio Telegraph Department and of the Tropical Radio Telegraph Company. Mr. Beakes was with Professor Fessenden's company from 1904 until 1912 and participated in the early work at both the Brant Rock, Massachusetts, and Machrihanish, Scotland, stations. He represented the Fessenden Company in the installation of the United Fruit Company stations at Cape San Antonio, Cuba, and New Orleans, entering the service of that company in 1912.

COL. W. P. ROTHROCK

Colonel W. P. Rothrock, formerly Chief Designing Engineer of the Fort Pitt Bridge Works and well known among structural steel builders as having supervised the third tracking of a large section of the New York Elevated system, and the construction of some of the largest war material plants, is superintendent of tower and building construction for the Radio Department of the Fruit Company. He erected the new 350-foot towers at Almirante, and is now in Honduras, erecting the 420-foot towers at Tegucigalpa.

OFFICERS OF THE UNITED FRUIT CO

TEGUCIGALPA

This article would hardly be complete without a few words concerning the United Fruit Company's activities—what it is and does. It was incorporated on May 30, 1899, and is engaged primarily in the production and transportation of tropical products, principally bananas, sugar, cacao and coconuts. It also conducts an extensive freight and passenger business.

Its tropical divisions are located in Colombia, Costa Rica, Cuba, Guatemala, Honduras, Jamaica, Panama and the Canary Islands. During the past ten years it has shipped from the tropics 284,000,000 bunches of bananas.

It has on its payrolls, including those of its subsidiaries, approximately 67,000 employees. It owns 1,536,000 acres of land of which more than 365,000 are cultivated. In addition it leases 125,000 acres of land of which 30,000 are cultivated.

It operates more than 1,300 miles of railways, 500 miles of tramways and over 3,500 miles of telephone and telegraph lines, in addition to its radio system.

In Latin America it does a mercantile business amounting to more than \$10,000,000 a year.

The United Fruit Company is one of the most complete and best equipped organizations devoted to the production of sugar. This fact is not generally known by the public, which regards it solely as a banana and steamship enterprise. It has in Cuba 87,000 acres of cane and two large sugar mills located at the seaboard, and owns the Revere Sugar Refinery at Boston, which is one of the most modern plants of its kind in the world.

Before closing the story of this remarkable company and its achievements, mention should be made of its medical service in the tropics. Probably few realize the magnitude of this service including, as it does, not only the care of the sick, but preventive medicine and supervision of sanitation. Yet on the preservation of health and improved conditions which make living in the tropics safe and enjoyable has depended in a large measure the success of all that the United Fruit Company has attempted and achieved.

An annual medical service, which is expressed in six figures, commands attention. During 1921 the number of patients cared for in the tropics by the Company's medical department was 208,000, of whom 33,000 were non-employees.

A large personnel of experienced executives, doctors and nurses, recruited from all over the world, is carrying on the work of this department of the United Fruit Company's activities.

The cost last year of operating hospitals and dispensaries was \$240,000 in excess of receipts. Through other departments directly associated with but not included in its medical service, the company spends annually in sanitation \$275,000; for parks and street cleaning \$200,000; and \$300,000 in excess of receipts for electric light plants and waterworks.

The Company has expended more than \$200,000,000 toward the development of the Latin American countries where it does busi-

ness and is the most potent factor in the extensive commercial relations of the United States with these countries.

These few salient facts concerning the United Fruit Company and its operations clearly indicate the varied interests served by its extensive and rapidly growing radio system. Radio—a dream of the scientists two decades ago—has firmly established its place in the commercial and political life of the world. Too much credit cannot be given the inventors and pioneers for their courage and perseverance in accomplishing this result.

The United Fruit Company has just announced the inauguration of a free medical radio service from its hospitals in the various countries of Central America and from its passenger steamships to all ships at sea. This service is available without charge so far as the United Fruit Company and subsidiary companies are concerned to ships of all nationalities through the following radio stations operated by the United Fruit Company or the Tropical Radio Telegraph Company:

Radiograms requesting medical advice should be signed by the captain of the ship and should state briefly, but clearly, the symptoms of the person afflicted. Such radiograms should be addressed "UNIFRUITCO" (name of place) and may be sent to any of the United Fruit Company's hospitals listed below:

- Santa Marta, Colombia
- Port Limon, Costa Rica
- Almirante, Panama
- Tela, Honduras
- Puerto Castilla, Honduras
- Puerto Barrios, Guatemala

All United Fruit Company passenger ships carry doctors, and free medical service may be secured by radio from any of them by a radiogram addressed "Ship's Doctor" followed by the name of the steamship.

This free medical service is established primarily for the benefit of ships not carrying doctors; however, should occasion require, ships' doctors may hold consultation by radio with the United Fruit Company ships' doctors and hospital staffs.

It is requested that when sending medical advice radiograms, radio operators check them (number of words) DH Medico."

"DH Medico" radiograms will be given preference over all other radiograms, excepting SOS calls, throughout the radio service of the United Fruit Company and subsidiary companies.

EARLY CALLS OF UFCO'S EARLY RADIO STATIONS (SHORE)

Radio Stations	Radio Call Letters
New Orleans, Louisiana	WNU
Burwood, Louisiana	WBW
Fort Morgan, Alabama	WIO
Swan Island, Caribbean Sea	US
Tela, Honduras	UC
Puerto Castilla, Honduras	UA
Tegucigalpa, Honduras (Open Nov. 1922)	UG
Port Limon, Costa Rica	UX
Almirante, Panama	UB
Santa Marta, Colombia	UJ
All passenger steamships of the United Fruit Company	For ships' call letters see International Radio Call Letter List

■ 30 ■



S.S. TANAMO - HRBV

Member Harry A. "Jock" Maclaren - SOWP 1111-SGP reports he was assigned the Tanamo in Baltimore in March 1940. The ship was sent to Puerto Cortes, Honduras where it became a 'training ship' to teach Honduran boys to be seamen. Some 75 Honduran youths were assigned aboard and taught seamanship on Cortes Bay. Later, many of these boys gave a courageous account of themselves during WW-2; some died in U-Boat attacks.

TROPICAL RADIO STATION CALLS

CALL STATION

- MBF BOSTON, MA
- WBW BURWOOD, LA
- WNN Ft. MORGAN, AL
- WAX MIAMI, FL
- WNU NEW ORLEANS "HB" SOUTHWEST PASS "SW"

TGU/TGF PUERTA BARRIOS GUAT UF

- US SWAN ISLAND (US) A
- HRC TELA, HON. UC
- HRB TEGUCIGALPA, HON. UG
- HRG PUERTO CORTES, HON.
- HJW SANTA MARTA, COL. UCJ
- YND PUERTO CABEZAS, NIC
- YNE EL GALLO
- BOCAS DEL TORO, PANAMA B
- VPP BELIZE, BR. HONDURAS. (GOVT)
- TROXILLO, HON. WB
- UJ CAPE SAN ANTONIO, CUBA.

TROPICAL STATIONS (OLDER CALLS-NOTES)

- HPK ALMIRANTE, PANAMA UB RXA
- YNB BLUEFIELDS, NIC. UQ Q
- YNC CAPE GRACIOS, UW
- CARTAGE UR
- TIM LIMON C.R. UX X
- YNA MANAGUA, NIC. UL
- PUERTA CASTILLA, HON UA

■ NOTE ■

We have found a few conflicting calls in material received, also noted in Call Books. If you find an error in the above records, we would appreciate so corrections can be made. T.U.



SLIDE THAT CLOSED THE PANAMA CANAL

Bird's eye view of the Slide that closed the canal which occurred on Nov. 17 1915. Picture from the collection of Senior Spark Gap-Pioneer and Charter Member Clifton T. Nichols - SOWP - 39. "Nick" started going to sea in 1913.



UNITED FRUIT COMPANY DOCKS - NEW ORLEANS

Our Wireless Heritage

The historical records of communications, especially the early days of wireless-telegraphy documented in the sixteen (16) editions of the SPARKS JOURNAL whose covers are shown on these two pages, will equal or exceed that normally found in TEN BOOKS. In the 540 pages which measure 16-1/2 x 11-1/2 inches will be found over 250 pictures of our members plus those who invented or were responsible in a large measure for the development of this mode of communications. You will find over 375 pictures of ships or their stations. There are nearly 300 pictures of land stations; 150 nautical subjects; 100 cartoons and nearly 600 illustrated drawings. Book stock of high quality is now used and the composition is many times greater and more complicated than ever found in books. Incidentally, the amount of advertising is the same as in most books — NONE !

The statistics are quoted to make members aware that while the SPARKS JOURNAL is only issued quarterly, the sheer volume of published matter, we believe, exceeds that of our contemporaries in the professional field we cover. Of course this is not all. We have published Directories of members, Call Books of our amateur members and many others. Prior to 1976, we had recorded 14 books in soft-cover format, many over 100 pages. This year we plan to publish 2 books, including the Almanac. Additional publications include the Skipper's Log, Net Bulletins, etc.

While there is some levity to be found, mostly germane to early day experiences, most of the material in SPARKS JOURNAL is factual, historical and of the type that should be retained for posterity. We have received hundreds of letters appreciative of the quality and interest to be found. Two prestigious awards have been presented to our Editor for "Outstanding preservation of early Radio History in the Publications of the Society of Wireless Pioneers." We feel highly honored and proud of preserving the Heritage of a very special and deserving group in our Society.

William A. Breniman - Founder and Publisher



RECORDING OUR HERITAGE

THE NEW SPARKS JOURNAL QUARTERLY

Publication of our new "SPARKS JOURNAL QUARTERLY" provides a timely opportunity for recording the historical...
 When our Society was founded some eight years ago, it was with the hope of bringing together those of us who were serious about wireless-telegraphy in a professional capacity during some portion of our lives...
 The average of five years of service changed some of our original members...
 We have recently established that the...
 The new format, with its quarterly...
 By having a printed account of our meeting...
 We have recently established a new...
 (Continued on Page 4, Col. 1)

NEWS

Always changing...
 GET US MUSIC...
 NO CODE...
 SPARKS IS BAD NEWS...
 LOUSY WEATHER? IT'S SPARKS...
 WHO'S THE...
 WHO'S THE...
 WHO'S THE...



THANKS....

SPARKS JOURNAL...
 THANKS TO THE SPARKS JOURNAL...
 (List of names and addresses follows)

"Sparks" on the Great Lakes

As we begin our new year...
 (Article text follows)

In this Issue

ASHOBE ON KAKYO TO
 Latitude 34-03 N., Longitude 125-08 E.
 "The Magellan Story"
 (List of contents follows)

SOS DE WINFU

(Article text follows)

FIRST WIRELESS HERO

"C Q D" SAVES 1400 LIVES
 JACK BINN, HONORED
 (Article text follows)

THE TITANIC DISASTER

At 11:58 am...
 (Article text follows)

Honoring Aerial Wirelesman

Wilson Turner Jarboe Jr.
 PATHFINDER ACROSS THE PACIFIC.
 NORTH ATLANTIC & LATIN AMERICA
 He Accompanied Charles A. Lindbergh
 on Epic Surveys as Pan-Am's
 Pioneer Wirelesman
 (Article text follows)

'Angel Of The Arctic' Heritage

A SALUTE TO THE U.S. COAST GUARD
 ESCO. BARENTINE BEAR
 (Article text follows)



Before Days of the Wireless

By "HARRY OLEBY"
To illustrate the early days of wireless communication, everything was done by hand...

What Happened to the 'Mary Celeste'?

The legend of the 'Mary Celeste' is a story that has fascinated the world for over a century...

Recording the Early History & Development of the Wireless



THE 'KFS' STORY

A TRIBUTE TO OUR LAND-STATION "PROFESSIONALS" THE WORLD-OVER

Highlights of my 35 years at KFS
By Eben K. Cady

It's not just the message and from then on many others...

1931 - Start of a long career

After some years pulling the wires down at Federal Telephone...

... going - but not gone!

As all know, that as a professional, the radio technician...

Preface.....

This story is the story of the early days of wireless communication...

It is a story of the early days of wireless communication...

The author of this story is the author of an early wireless...

It is a story of the early days of wireless communication...

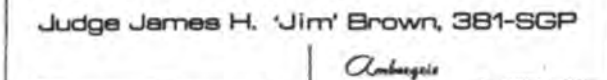
It is a story of the early days of wireless communication...

Recording the Early History & Development of the Wireless



Our New President

Judge James H. 'Jim' Brown, 3B1-SGP



Judge James H. 'Jim' Brown, 3B1-SGP

Fortunes at Sea

Amalgams BY BARBA A. BARRON



Several years ago, the ship master of the S.S. William...

The ship that was mentioned in the article was the...

There are many more ships of the same name and...

It is a story of the early days of wireless communication...

Recording the Early History & Development of the Wireless



WORLD-RENOWN WIRELESS STATIONS

"N A A" -- ARLINGTON THEY MADE HISTORY

The Towers of BAA



On the 15th of January, 1910, the towers of the NAA station...

The towers of the NAA station were built by the...

The towers of the NAA station were built by the...

The towers of the NAA station were built by the...

The towers of the NAA station were built by the...

The towers of the NAA station were built by the...

Recording the Early History & Development of the Wireless



SOS : CQD : SOS : CQD : SOS : CQD

A PROUD HERITAGE

There are few if any wireless men in the world...

The SOS : CQD : SOS : CQD : SOS : CQD...

The SOS : CQD : SOS : CQD : SOS : CQD...

The SOS : CQD : SOS : CQD : SOS : CQD...

The SOS : CQD : SOS : CQD : SOS : CQD...

The SOS : CQD : SOS : CQD : SOS : CQD...

The SOS : CQD : SOS : CQD : SOS : CQD...

The SOS : CQD : SOS : CQD : SOS : CQD...

Recording the Early History & Development of the Wireless



Introducing 'Intercom'

Sowp News Circuit for Members

A WIRELESS WHODUNIT

The very first wireless in which someone was...

The very first wireless in which someone was...

The very first wireless in which someone was...

The very first wireless in which someone was...

The very first wireless in which someone was...

The very first wireless in which someone was...

The very first wireless in which someone was...

Recording the Early History & Development of the Wireless



THE GREAT 'STAR' FLEET

By CAPTAIN HAROLD D. HUYCKE

The Great 'Star' Fleet was a fleet of wireless...

The Great 'Star' Fleet was a fleet of wireless...

The Great 'Star' Fleet was a fleet of wireless...

The Great 'Star' Fleet was a fleet of wireless...

The Great 'Star' Fleet was a fleet of wireless...

The Great 'Star' Fleet was a fleet of wireless...

The Great 'Star' Fleet was a fleet of wireless...

The Great 'Star' Fleet was a fleet of wireless...

Recording the Early History & Development of the Wireless



THE PIONEER WIRELESS WOMEN

LOUISA B. BANDO WORLD

The Pioneer Wireless Women were the first...

The Pioneer Wireless Women were the first...

The Pioneer Wireless Women were the first...

The Pioneer Wireless Women were the first...

The Pioneer Wireless Women were the first...

The Pioneer Wireless Women were the first...

The Pioneer Wireless Women were the first...

The Pioneer Wireless Women were the first...

Recording the Early History & Development of the Wireless



SEVENTIETH ANNIVERSARY

SINKING OF SUPER-LINER TITANIC

COD CQD SOS DE MGY

We Heard Them Playing

'Autumn'

TITANIC

April 15 1912

The Titanic was a super-liner...

The Titanic was a super-liner...

The Titanic was a super-liner...

Recording the Early History & Development of the Wireless



CHARLES H. ACREE, General Superintendent
Panama City, Panama



ARTEMUS B. ENGLE, Superintendent
La Lima, Honduras



BELTON W. RUDDER, General Superintendent
Guatemala City, Guatemala



EDWARD L. COMMAGERE, Division Superintendent
New Orleans, La.

MEN OF DESTINY



TRT president Robert V. Howley (center) with top aides: G. R. O'Donnell, assistant to president; George C. Hansis, Jr., traffic superintendent; Roy S. Hood, commercial superintendent; and C. C. Harris, vice pres. and chief engineer. Also shown are men who head TRT operations in key locations.

"TROPICAL RADIO" - THEIR HERITAGE



ROY W. JONES, Superintendent
Fort Lauderdale, Fla.



JAMES W. PARKER, Superintendent
Managua, Nicaragua



CHARLES W. PHILLIPS, Superintendent
San Jose, Costa Rica



STUART M. CRAIGIE, Operations Engineer
San Jose, Costa Rica

THE STORY OF TROPICAL RADIO

Historical Paper
By
Charles Cahill Harris

Presented Nov. 14, 1941 by TRT Chief Engineer Harris to Members Boston Sec. I.R.E.

The Tropical Radio Telegraph Company is the communications subsidiary of the United Fruit Company. Tropical was organized and incorporated in 1913 to operate the communications system built up by the parent company. It therefore seems appropriate to outline briefly the early history of the United Fruit Company before describing the system and plant facilities of the subsidiary company.

It is recorded that on a June day in 1870, Captain Alonzo D. Baker, Wellfleet, Cape Cod, took his 85-ton schooner, named the "Telegraph," into Pt. Morant, Jamaica, for a cargo of bamboo. After attending to his business ashore, Captain Baker paused for refreshment. While enjoying a tall cool rum punch, he met a man who had a quantity of bananas to sell cheap. The story relates that after the second rum punch, Captain Baker purchased the bananas for twenty-five cents a stem. He made the passage to New York in eleven days and sold the fruit, some at two dollars fifty cents and some at three dollars twenty-five cents a bunch. This transaction naturally made Captain Baker very enthusiastic about bananas. The next year, 1871, he made another voyage to Jamaica and returned from Port Antonio with four hundred bunches. This passage took seventeen days. Captain Baker teamed up with a partner, Captain Jesse H. Freeman, also of Cape Cod, and they continued to buy bananas in Jamaica and sell them in New York and Boston for the next three years. However, they were put out of business for a while during that period because of excessive loss of fruit through over-ripening during slow passages. In the early 80's Captain Baker had a new schooner built with auxiliary steam power. It was named the Jesse H. Freeman, after his partner, and was capable of carrying 10,000 stems of fruit to New York or Boston in ten or twelve days. In 1885, Captains Baker and Freeman met Andrew W. Preston, a salesman with a Boston Commission House. These three gentlemen together with seven others chipped in \$2,000 each and formed the Boston Fruit Company. They all agreed to take no profits out of the partnership for five years. The venture flourished and five years later, in 1890, the Boston Fruit Company was incorporated. The Boston Fruit Company had one steamer named the "Bowdoin" but soon after the incorporation, six new vessels were built and they later chartered four more ships - the Admirals Dewey, Sampson, Schley and Farragut. Preston called them the "Great White Fleet."

The advent of refrigeration cars made it possible to reach markets for fruit further from the seaboard and Preston organized the Fruit Dispatch Company to handle distribution and sale of bananas. Jamaica could no longer meet the demands for fruit and cheap lands were purchased by the Boston Fruit Company in Cuba and San Domingo but the venture in these new fields failed and it was necessary to find other banana lands.

To go back again to 1871; in that year a young man named Minor C. Keith went to Costa Rica to assist his uncle in building a railroad from Port Limon, on the seacoast, to San Jose, ninety miles over the mountains. Malaria, yellow fever and dysentery took a large toll of lives among the laborers working on this project. It is said that a man died for every tie laid between Limon and Zent, a distance of twenty miles. In 1873, young Keith began planting bananas in the low lands in back of Limon. The railroad was completed in 1890 but passenger

traffic did not materialize and Keith found himself in financial difficulties. Freight was needed to provide the road with revenue. Keith had heard about the Boston Fruit Company and got together with Preston. As a result of this meeting the United Fruit Company was formed out of the Boston Fruit Company, on March 30, 1899, and capitalized for twenty million dollars. The United Fruit Company bought the bananas Keith had started to cultivate many years earlier. Thus freight was provided for the Costa Rican railroad and Keith pulled out of his financial difficulties. He later went to Guatemala to build another railroad.

From this beginning the United Fruit Company has become a large corporation with vast properties in Central America and the West Indies. It has under cultivation over 400,000 acres of land and owns and operates eighteen hundred miles of railroad. It owns and operates telephone, telegraph and power systems, as well as hospitals and commissaries throughout Central America. It has a fleet of about one hundred steamships and the necessary wharf facilities both in Central America and the United States. The Fruit Dispatch Company is still the fruit distributing agency of the parent company.

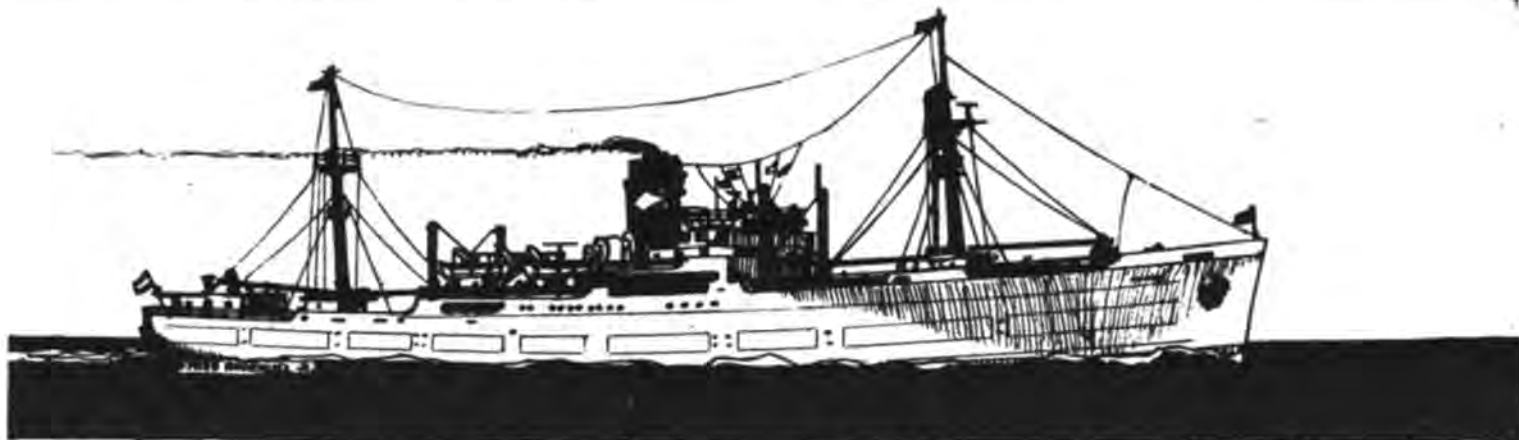
The banana is a perishable product. As the United Fruit Company expanded, rapid communication between its plantations, divisional headquarters and home offices became a vital necessity. Until about 1904 the entire eastern coast of Central America and Northern Columbia, in South America, was without any direct means of communication with the United States, except for the cable station at Colon, Panama. The route for the messages from the States to Central America up to that time was by cable, through Galveston, Texas, across Mexico and down the west coast of Central America to San Juan del Sur, Nicaragua. From San Juan del Sur messages were distributed over local government-owned and operated telegraph lines to Point of destination.

The entire Central American area, particularly the coastal region, is subject to torrential rains for about nine months of each year which cause floods and washouts. The government lines and services were subject to frequent disruptions because of these conditions.

Telegraph systems were constructed by the United Fruit Company for communication between the banana farms, divisional headquarters and loading ports but they were forced to rely upon the government-owned and operated systems for communication between the headquarters in each of the countries in which they were operating plantations. Consideration was therefore given to the possibility of establishing telegraphic communication between the operating headquarters in the different countries.

Until 1904, the only means of communication between the company's Costa Rican headquarters at Port Limon and the Panama headquarters at Bocas del Toro was by a seventy-five mile water route in the open sea. Messages were sent back and forth in the care of natives who paddled cayucas or log canoes seventy-five miles in the open sea in from thirty to sixty hours, depending upon weather conditions. The cost of each trip was twenty-five dollars oro Americano (American gold). The route

(Continued on Page 24)





Charles Cahill Harris

Date of birth - May 6 1898 in St. Louis, Mo. In 1912 he obtained a first class Amateur Radio Operators License - he is listed in the 1913 edition of the Government Call Book with call "2FZ". His first 1st Class Commercial License was issued in 1914. He joined United Fruit Co., as a shipboard wireless operator on Feb. 14 1916 and was transferred to shore station service in Sept. 1918. He worked on installation of new plants at Almirante, Panama; Puerto Barrios Guatemala and Miami, Fla., and was Operator in Charge of stations at Swan Island (Caribbean); Port Limon, Costa Rica; Puerto Castilla, Honduras and Puerto Barrios.

Mr. Harris left TRT in Dec. 1925 to enter the radio broadcast field. He also did radio interference engineering for RCA before returning to TRT May 9 1927 as an engineer in the General Office at Boston Mass. He was appointed Supt. Boston Division and Assistant to Manager in May 1929. In Dec. 1934 he was named Supervisor, Frequency and License Bureau and was appointed Chief Engineer, T.R.T.Co., in August 1940. Harris was elected Vice President, May 3 1948 and Senior V.P. April 9 1959. He was also Director of TRT and of Tropical Radio Service Corp., which handled ship stations of the United Fruit Company's fleet.

During the mid-1930's, Harris initiated development work for further system modernization in the advancing state of the art. An Engineering Dept. was organized to develop and design equipment best suited to operating conditions in the tropics. All plans were ready on the eve of World War Two but were necessarily deferred. However, factory production of equipment started in 1946 and shipments commenced in 1948. The new system was in full operation by mid-1950's and Tropical Radio was operating the only mechanized 'forked-circuit' radio system in the world.

Mr. Harris retired from Tropical Radio, May 31 1963. He was Chairman of Boston Section of IRE - 1944 and 1945. He is a life Senior member of IEEE: Life member of Squantum Yacht Club, Quincy, MA. and of the Chesapeake Bay Maritime Museum, St. Michaels, Md. He is a retired Lt. U.S.N.R. and holds memberships in radio, historical, art and photographic societies.

Picture - 1944 from the Raymond B. Jewett collection.

Early in 1904, Mr. Mack Musgrave, who was in charge of the Company's telegraphic service in Costa Rica, was instructed to make an overland survey between Limon and Bocas and report on the practicability of building a telegraph line to connect these points. The overland distance between Limon and Bocas is about one hundred and fifty miles. Musgrave reported that an overland telegraph line was impracticable owing to the numerous rivers and swamps to be crossed. He pointed out that beside being costly to construct, such a line would also be costly to maintain and the service would not be reliable. Twenty years ago, I made the overland trip between Limon and Bocas and can well appreciate Mr. Musgrave's conclusion. Twenty years ago, there was only a fourteen-mile stretch of the trail left. The rest of the route was covered by the banana railroads on the Costa Rica and Panama sides of the border.

My trip, 18 years after Musgrave's survey, was by motor car from Limon to Zent - 20 miles west (up country) - where we switched to the Estrella Valley line which ran about 80 miles south to Suretka near the Panama border. I overnighed there and was then given a mule and a guide (also on mule) for the trail ride. It was still virgin jungle and swamp and the Dos Bocas river crossed and recrossed the trail 9 times in its 14 miles. The rains had started and a week or so before, about 100 head of cattle and horses had been driven over the trail, so the journey was a very muddy one. On the Panama side of the border, the trail was over the top of Chirolí ridge - a razor-back hill about 800 feet high. On the climb we had to dismount frequently to help the mules and on the descent all four of us (mules and men) went down most of the way on our own hindquarters. We arrived at Atalanta in Panama thoroughly mud-covered, and continued on to Almirante by motor car from Guabito. Incidentally, a motor car is not an automobile; it is a small railroad pump or hand car from which the pump handles and gear have been removed and a small gasoline engine installed for propulsion, and a small buggy seat added. The user of a motor car always travelled with a "motor boy" as it was often necessary to stop and get the car off the track to let a banana train through on the single track lines; it took two to get the car off and on the track again.

Musgrave recommended instead the establishment of a wireless telegraph circuit between Limon and Bocas. His recommendation was adopted and Musgrave was instructed to proceed to the United States to purchase the necessary equipment. This was shortly after the International Yacht Races off Sandy Hook, New York, for the America's Cup, between Sir Thomas Lipton's Shamrock III and the American defender - Reliance. These races had been successfully reported by wireless by the original American DeForest Wireless Company, later known as the United Wireless Telegraph Company. Musgrave purchased the transmitting and receiving apparatus used by the DeForest Company in reporting the America's Cup Races and shipped it to Bocas del Toro where it was installed in 1904. Similar equipment was purchased for Port Limon. The circuit between these two points was established March 23, 1904 and was the first wireless telegraph service to be established in Central or South America.

This picture shows the Limon Station installation at the time the circuit was opened. The gentleman in white with the handle bar mustache is Mr. Musgrave. The operator's name was C. A. Barnhardt, who assisted with the installation. A speedy messenger boy appears in the background.

This picture shows the antenna mast. Some years later the location of this station was moved to Hospital Point right on the water and the wood mast structure was replaced by two 200-foot self-supporting steel towers.

In 1906 two more stations were built. One was located at Bluefields and the other at Rama on the Escondido River, in Nicaragua. The equipment for the Bluefields and Rama Stations was similar to that installed at Bocas and Limon. These early spark transmitters employed Leyden Jar condensers and the fire-cracker type of high voltage transformer. Transformer potentials were very high - of the order of 50,000 volts - and rather frequent circuit interruptions occurred as a result of condenser failure, particularly those of American manufacture. Because of the frequent failures it was difficult to keep sufficient spare jars on hand and the Bluefields Station was faced with a prolonged shutdown not a great while after its establishment. Yankee ingenuity found a speedy solution for the serious problem. A condenser was made with an old five-gallon wine demijohn, filled with salt water and set in a half-barrel which was insulated from the floor with empty beer bottles. This condenser held up for two years. Another replacement was put together by the operator. This one remained in service until the old original Bluefields Station was dismantled in 1925. It is shown in the next picture. It had been observed that Leyden Jars of European manufacture stood up better than American-made jars, which was attributed to the better European glass. The condenser shown in this picture was made of champagne bottles filled with salt water and set in an old iron cook-vessel. The iron pot was insulated from the table with old heavy bar whiskey glasses. The champagne was imported from Europe and the bottles were therefore a good grade of glass. Ample replacement bottles and whiskey glasses were always available in Bluefields - and it was thus easy to keep or get adequate spare parts.

(Continued Next Page)

TROPICAL RADIO TELEGRAPH COMPANY

(Continued from Page 23)

for messages from the Company's offices, in the States to Bocas was as previously described, via the Galveston cable to San Juan del Sur, Nicaragua, thence via Nicaraguan government land lines to the Costa Rica border where the messages were transferred to the Costa Rican government land lines for delivery to the Company's Limon office. The Limon office then dispatched the messages by cayuca messenger to Bocas. Under these communication difficulties it frequently happened that messages relating to changes in fruit cutting schedules or the diversion of a steamship from one United States port to another would reach the plantation after the fruit had been cut or after the steamer had loaded and departed, resulting in large losses to the Company. Faster and more reliable communication was obviously very vital to the successful operation of the banana business and the company was therefore prepared to spend large sums of money for establishing good communications between its various units.

The original receivers at these four stations were the DeForest two and three slide tuner type with the old "Goo" responders which were later replaced by electrolytic detectors of the Shoemaker and Fessenden types.

Each station was equipped with its own primary source of power consisting of internal combustion engines and belt-driven 60 cycle alternators. The Bocas, Limon, Bluefields and Rama stations were operated under the direct supervision of Mr. H. O. Easton who was one of the first installers and operators employed by the American DeForest Wireless Company.

This early network greatly improved interdivisional communication. However, communication with the United States had to be improved. Mr. Preston was now president of the United Fruit Company and Minor C. Keith was vice-president. They decided that the interests of the company, as well as the United States, demanded improved communication facilities between the States and Central America. It was their ambition to connect all the countries of Central America and Columbia, South America, by wireless with the United States. The Board of Directors of the United Fruit Company authorized equipment of the Company's steamships and the establishment of a station at New Orleans, Louisiana. Accordingly, in 1907 the United Fruit Company purchased the United Wireless Telegraph Company's station at New Orleans which was located on the roof of the Hibernia Bank Building. This station was shortly thereafter moved to the outskirts of the city and enlarged. The United Wireless Company's station at Burwood, Louisiana, near the Southwest pass at the mouth of the Mississippi River was also purchased, primarily for communication with ships. In the same year, 1907, Musgrave, whose headquarters were now in New Orleans, went to New York and contacted Harry Shoemaker, then Chief Engineer of the International Telegraph Construction Company, and purchased from him a 10 KW 60 cycle spark equipment for installation at Swan Island. According to the new plans, Swan Island was to be the relay point between the Central American stations and New Orleans. The Limon Station was improved and enlarged for the purpose of communicating with Swan Island. Swan Island is about ninety miles off the coast of Honduras. It is a little island two miles long and about one-half mile wide. It was owned by the Swan Island Commercial Company from whom a twenty-five acre tract was obtained on a long-term lease. The waters around Swan Island shoal rapidly and ships are therefore unable to approach closer than about a mile off the beach. The construction of the wireless station on Swan Island presented many difficulties. Ships stopped there occasionally at irregular intervals to pick up coconuts and phosphate for the Swan Island Commercial Company whose interests on the island were in charge of a man named Captain Adams. The only other inhabitants of the island were Grand Cayman laborers who worked for Adams. A vessel was chartered to carry all the equipment and construction materials for the new station, including tower steel, oil and water storage tanks engines, generators, etc. A construction gang was sent down on the same vessel. All material and equipment had to be lightered ashore through the open sea. Construction of the station required eight months and it was completed and placed in operation during the latter part of 1907.

In those days comparatively little was known about the signal fields required to establish reliable communication over given distances. Development proceeded largely on the cut and try basis. It was observed that Swan Island could communicate with both New Orleans and Port Limon under favorable conditions at certain seasons of the year and communication was unreliable during heavy static periods. The heavy static period prevailed for about nine months of the year during the rainy season and it was also observed that static was particularly heavy in the tropics on the longer wave lengths. It became apparent that the 10KW Shoemaker transmitter was of insufficient power to maintain reliable contact with New Orleans throughout the year.

Late in 1907 or early in 1908 Musgrave contacted Colonel John Firth who was at that time selling agent for Professor Picard's newly invented crystal detectors. Through Col. Firth, Musgrave met George S. Davis who was then in charge of the United States Navy Radio Station at Brooklyn Navy Yard. Davis, in his capacity as instructor of the Navy Wireless School and as manager of the Navy Yard Wireless Station, had been testing various types of equipment submitted to the Navy Department for test. As a result of this meeting with Davis, Musgrave met Professor Fessenden who had conducted successful tests between his station at Brant Rock, Massachusetts, and Machrihanish, Scotland.

It had been observed at Swan Island and Port Limon that the signals from Fessenden's 500 cycle synchronous rotary spark transmitter at Brant Rock, Massachusetts, carried better through static conditions than the earlier 60 cycle fixed spark transmitters. The Company then purchased from Fessenden two 25 KW 50 cycle synchronous rotary spark transmitters, one for installation at New Orleans and the other to be installed at Cape San Antonio, Cuba, as a second relay point between Swan Island and New Orleans.



George Schley Davis

1884 — 1924

While 'Mack' Musgrave was called the "Father of Wireless" in the Tropics and the "Marconi" of the United Fruit Company's venture into Communications, George Schley Davis, brought by 'Mack' to UFCO as his assistant in 1909 became the "De Forest" who modernized the company's communication system — adding tubes of the type invented by Dr. Lee De Forest as the 'finishing touch' to a highly efficient system.

Mr. Davis was born Oct. 1 1884 in North Platte, Nebraska. In 1907 — 1908 he was instructor of the U.S. Navy Wireless School, in charge of Navy Wireless Station at Brooklyn N.Y. Navy Yard and also the testing of various types of equipment submitted to the Navy Department. At this time 'Mack' Musgrave met Davis through Col. John Firth. Mr. Davis introduced Musgrave to Prof. Reginald Fessenden who was also an early day wireless pioneer.

Early in 1909, due to growth of the wireless program, Musgrave needed an assistant. He persuaded Davis to obtain a release from the Navy and join the United Fruit Company which he did Sept. 29 1909 in New Orleans, La. Late in 1911 Mack Musgrave requested leave of absence so UFCO appointed Mr. Davis as General Supt. of Wireless. Davis promptly organized a separate Wireless Department with headquarters in New York. He was appointed General Manager, Oct. 1 1917.

Under Davis' management, the United Fruit wireless system grew and expanded. In 1913, a subsidiary — TROPICAL RADIO TELEGRAPH CO was formed under the laws of Delaware to handle communication needs of the Company and the general public. In 1921 he initiated a \$5 million modernization program to replace all spark transmitters with modern vacuum tube long-wave equipment. Mr. Davis was elected President of Tropical; a Vice President and Director of United Fruit; a Director of Radio Corp. of America and the Wireless Specialty Apparatus Company. He was a 'Fellow' member of I.R.E.

Mr. Davis died Oct. 10 1926 at the age of 42 but he lived to see the program completed, giving United Fruit and the general public reliable 24-hour service between the States and Central America.

Picture from collection of Charles Cohill Harris — published Sept. 1922 issue of "Radio Broadcast" magazine. Thanks to Member Raymond B. Jewett (who worked at WBF from 1927-1931 and HPC 1934-35). Ray has furnished considerable copy for use in this issue. — 30 —

Cape San Antonio is at the extreme western end of Cuba, and was to be relay point between New Orleans and Swan Island. The only site available for a radio station was forty miles from the nearest native habitation and fifty miles from the nearest railroad. The Cape was infested with mosquitoes, sand flies, chiggers and many other pests. Construction facilities were entirely lacking. Rock for concrete had to be hauled a considerable distance and then broken by hand. Beach sand from which salt was washed was used for concrete.

All materials and equipment, including steel for a single 250-foot tower, were shipped by steamer from Baltimore to Havana where they were transferred to a chartered schooner and taken to Cape San. As was the case at Swan Island, everything had to be lightered ashore in small boats and lighters towed through the open sea. The equipment was shipped during the



TRT: Historical Paper - Harris



Wm. Edgar Beakes

1880—1951

William Edgar "Bill" Beakes was born May 21 1880 in Newburgh N.Y. about the turn of the century. He was in the U.S. Army Signal Corps in the Philippines. In 1904 he joined Prof. Reginald Fessenden in wireless development at Brant Rock, Mass. and was sent to Machrihanish, Scotland to build and operate a large station for Fessenden's first trans Atlantic transmissions which took place 1906-1907. He later worked with George S. Davis on Fessenden - U.S. Navy installations and was later sent to Central America to study United Fruit's wireless requirements. Beakes held a number of early patents on wireless equipment, including the Ferro-Silicon and Antimony detectors, improvements to synchronous rotary spark gap, a sub-soil antenna and a transmitting antenna.

Mr. Beakes left Fessenden to join United Fruit on Dec. 11 1912 at the invitation of George S. Davis and was appointed Chief Engineer, Wireless Department. He was also Chief Engineer of Tropical Radio Telegraph Co., when the subsidiary was formed in 1913. In 1927, following the death of Davis, he was appointed General Manager of UF Wireless and Tropical Radio. He was elected Vice President and General Manager of Tropical May 5 1930 and President and General Manager on February 15 1939. In May 1943 he was awarded the Marconi Memoria Medal of Achievement. He was a Lt. Comdr. (Ret). U.S. Naval Reserve. He retired June 1 1945 and died in Florida March 30 1951. Photo from Charles H. Harris collection - taken in 1928.

(Continued from Page 25)

latter part of 1908 and the station was completed during the summer of 1909. In the meantime, the other new Fessenden 25 KW spark transmitter had been installed at New Orleans so that as soon as the Cape San Station was completed, a circuit was established with New Orleans. The distance between these two points is about six hundred miles and service was fairly reliable for about six months of the year. But it developed that even with the Cape San and Swan Island relay points, the Company could not maintain uninterrupted hourly communication between the United States and Central America.

In 1908, a number of Fessenden 2 KW 500 cycle synchronous rotary spark transmitters were purchased for installation on the Company's ships. These were installed in 1909 under the supervision of Mr. W. E. Beakes who today (1941) is President of the Tropical Radio Telegraph Company. Mr. Beakes was a young engineer with Fessenden between 1903 and 1912 who worked closely with the inventor in his early Transatlantic transmission experiments. He was sent to Machrihanish, Scotland,

to establish and manage the test station erected there for transmission to Fessenden's Brant Rock, Massachusetts, station, and later Mr. Beakes handled the early Fessenden installations for the Fruit Company.

All the Company's steamships were now equipped with wireless apparatus and it was at this time that the Company conceived the idea of a part cable and part radio route for messages between the United States and Central America to tide over until better wireless equipment could be developed and installed at its stations for reliable hourly communication.

It was previously mentioned that there was a cable station at Colon, Panama, prior to 1904. By the new route messages were sent from the United States by cable to Colon at which point they were transferred to one of the Company's ships lying at the dock in Colon. The ship then passed the message to Bocas or Limon. Messages for Bluefields and Rama were relayed by Bocas and Limon. The Company's steamship schedules were such that a vessel was always at the dock at Colon. Thus this route could be used during periods when the wireless route through New Orleans was interrupted by heavy static or poor transmission. Messages originating at the Company's offices in Central America destined to the United States were transmitted to the ship in Colon at which point they were transferred to the cable. This route was first established in 1909 and continued to be used until laws or regulations prohibited transmissions by a ship in Colon Harbor. About 1912, the U.S. Navy constructed its own radio station at Cristobal, Canal Zone. The same route was still used but messages were transmitted to the Colon Navy Station instead of to one of the Company's ships at dock.

During the Nicaraguan revolution of 1909 against President Zelaya, the cable connection between Nicaragua and the United States and Europe was interrupted. However, the "via Colon radio route" using Company's ships in port at Colon provided the only communication between Nicaragua and the outside world. The importance of this route was thus emphasized and the Company proceeded to obtain the best operators available for ship-board assignments since, as can be appreciated, operating while at dock in Colon was not an easy assignment due to noise from deck winches, cargo handling and heavy static. The Colon-Port Limon radio route became one of the fastest and most accurate telegraphic routes in the world. It was during this period that the Company established a standard requirement for transcription of radio messages by its operators directly on the typewriter. While typewriter transcription had been used in wire telegraph offices for some time, this is the earliest adoption of typewriters as standard equipment for ship-shore communications, so far as is known. The typewriter became an essential as a time saving factor in the receipt and delivery of wireless messages.

The Cape San Antonio station was partially blown down by a hurricane in the latter part of 1909. It was rebuilt but was seriously damaged by another hurricane the following year. The station was again rebuilt and remained in service until August, 1915, when a very severe hurricane swept the western end of Cuba and completely demolished the station. It was in this storm that the Company's steamer "Merrowyne" disappeared, with no trace of wreckage ever having been found. The western tip of Cuba appeared to be in the center of the hurricane path since many of the West Indian hurricanes sweep up the Yucatan Channel. The Company decided to move the Cape San Antonio station about fifty miles east out of the hurricane path, but the Cuban government refused to grant a permit to move the station and as a result it was never rebuilt.

Early in 1909 the Company officials were cognizant of the importance and permanence of radio communication as a part of the fruit business. The wireless construction program had reached a point where additional trained personnel was needed. Mr. Musgrave, who up to that time had fathered the application of wireless communication to the Company's business, persuaded George S. Davis to join his organization as his assistant. Mr. Davis secured a release from the Navy Department and joined the Company in September 1909. His first work was to organize a wireless department as a distinct and separate unit apart from the electrical department, following which a program was laid out for extension of facilities; also, a program of experimental work and tests. Following this, what is believed to have been the first commercial use of the famous Fessenden-Heterodyne invention was applied between Cape San Antonio and New Orleans stations during 1910 and 1911. New and improved receiving equipment was installed at all stations during this period and new transmitting equipment, with improved antennas, was installed at Port Limon and Bocas.

Picture #4 shows a map of the system operated by the United Fruit Company's Wireless Department, in 1910. It will be observed that communication with Santa Marta, Colombia, Puerto Barrios, Guatemala, and Belize, British Honduras, was possible through ships lying at docks in these ports in the same manner as previously established at Colon. Some of the long circuits shown on this map functioned only during favorable conditions. In 1911, the system comprised the New Orleans and Southwest Pass, Louisiana, stations, call letters HB and SW, respectively

SPARKS JOURNAL

the Cape San Antonio, Cuba, station, call letters UJ; Swan Island, call US; Bluefields, Nicaragua, call Q; Bocas del Toro, Panama, call B; and Port Limon, Costa Rica, call X. Stations were proposed for Santa Marta, Colombia; Colon, Panama; Puerto Barrios, Guatemala; and Belize, Honduras. By this time twenty-one vessels of the Company's fleet were radio equipped;

Mr. Musgrave resigned from the Company in the latter part of 1911 and went to Alaska. Two years later he returned to Seattle where he died. Thus, it was due to his perseverance in the face of the discouraging difficulties of the pioneer that the groundwork was laid for our important radio communications system which links together the Central American countries and the United States. Upon Mr. Musgrave's resignation, George S. Davis was appointed General Superintendent of the Wireless Department and headquarters were moved from New Orleans to New York.

As previously mentioned, Mr. Beakes was working with Prof. Fessenden between 1903 and 1912. Prior to the purchase of the Fessenden transmitters for ship stations, Mr. Beakes was sent to Central America by Prof. Fessenden to study the United Company's wireless requirements and he had also previously worked with Davis in Fessenden - U.S. Navy installations. Mr. Davis invited Mr. Beakes to join the United Fruit Company in 1912 and he was made Chief Engineer of the Tropical Radio Telegraph Company when the subsidiary was incorporated in 1913. Mr. Beakes holds a number of early patents on wireless equipment among which are the Ferro-Silicon and Antimony Detectors which held adjustment during heavy atmospherics better than other detectors at that time. He developed and improved the synchronous rotary spark gap. Another of his patents pertains to a sub-soil antenna and still another one covers a transmitting antenna which was later well adapted to short wave transmission.

Expansion and improvements continued. In 1911, some of the New Orleans and Cape San Antonio equipment was obsolete, and since these stations did not meet the requirements of continuous hourly service, it was decided to select a new site for the New Orleans Station, re-equip it with more powerful and modern transmitters. It was also planned to rebuild and re-equip Swan Island and to build a new high-powered station at Santa Marta, Colombia, which had become an important fruit port. A contract was entered into with the Marconi Wireless Company of America to furnish for each of these stations 50 KW synchronous rotary spark transmitters. On the new New Orleans site four-inch tubular steel guyed masts were erected in a rectangle 600 by 300 feet. The transmitting antenna consisted of twenty wires, running with the 600-foot dimension. Picture No. 5 shows the new masts and buildings as of 1912 at City Park, New Orleans.

The Swan Island site was enlarged and four self-supporting 250-foot steel towers were erected for an antenna identical to that at New Orleans. New and larger buildings were put up, constructed of steel frames and corrugated asbestos walls and roofs. Larger power generating equipment also had to be provided. (Pictures Nos. 6, 7, 8 and 9) A hurricane hit Swan in 1914, dropping one tower. However, service was maintained with jury-rigged antennas until a new tower was erected. A year later - in 1915 - a very severe hurricane struck with 130-mile winds; three towers were destroyed and all coconut palm trees



Henry O. Easton

Henry Easton was born December 18 1879 in Mehoopany, Pa. He joined the United Fruit Company, on Mack Musgrave's invitation, in March 1904 as a wireless operator at Port Limon, Costa Rica. One of the legendary operators for United Fruit - an expert telegrapher in the days of the "Boomer Operator" and one of the earliest operators and installers for the American De Forest Co. When Mack Musgrave purchased equipment from that Company for the Bluefields and Rama, Nicaragua two stations, Mr. Easton made those installations. Upon completion in February 1906, Bluefields and Rama Nicaragua and Limon and Bocas del Toro, Panama were placed under his supervision.

On October 1 1916 Mr. Easton was appointed Superintendent of Tropical Stations with headquarters in Port Limon. He contributed greatly to the growth and performance of the system, and on May 1, 1925 he was appointed General Superintendent of Tropical Radio Telegraph Company with headquarters in New Orleans, La.

After 25 years of faithful and efficient service, Mr. Easton left the Company of Dec. 31 1929. He entered the real estate business with his brother from Shreveport, La., and after his brother's death a few years later he went to Pittsburgh, Pa. to join his sister. The picture is a snap shot taken in 1917.

flattened. The stubs of many palm trees may be seen in the photo labelled No. 6 in the right center of the picture. There was relatively little damage to buildings by this storm due to their steel frames and corrugated asbestos roofs and walls. This was the same hurricane that passed up the Yucatan Channel and completely destroyed our Cape San Antonio Cuba station, as mentioned previously.

In 1914, a new station was built at Tela, Honduras, and another at Puerto Castilla, Honduras, in 1917. By 1916 a number of the Company's ships were equipped with quenched spark transmitters manufactured by the Wireless Specialty Apparatus Company. Prior to that time a number of IP-76 receivers, with which some of you are familiar, were purchased and installed in both ship and shore stations. In 1915, Wireless Specialty double-deck type tuners were purchased and installed aboard ship. Between 1910 and 1915 DeForest had made considerable progress with his vacuum tube detector and Roy Weygant had developed the so-called "X" circuit receiver employing a vacuum tube. This was essentially a tuned grid-tuned plate regenerative form of receiver. Patent restrictions prevented general application of the vacuum tube to commercial wireless requirements but many of the operators employed aboard ship and at shore stations purchased DeForest tubes and made up their own receivers or detectors and used them in the station to which they were assigned. I made a detector employing the DeForest double filament cylindrical-shaped tube and used it aboard ship in 1916 and 1917. It was used as a non-regenerative detector in place of the crystal detector with which ship stations were normally equipped. This detector was mounted in a small oak box measuring approximately 8 inches by 6 inches by 5 inches and had self-contained flashlight "B" batteries. The ship's emergency storage cells were used for the filament battery.

(Continued on Page 28)

Guide to New Orleans



S.O.



W.P.

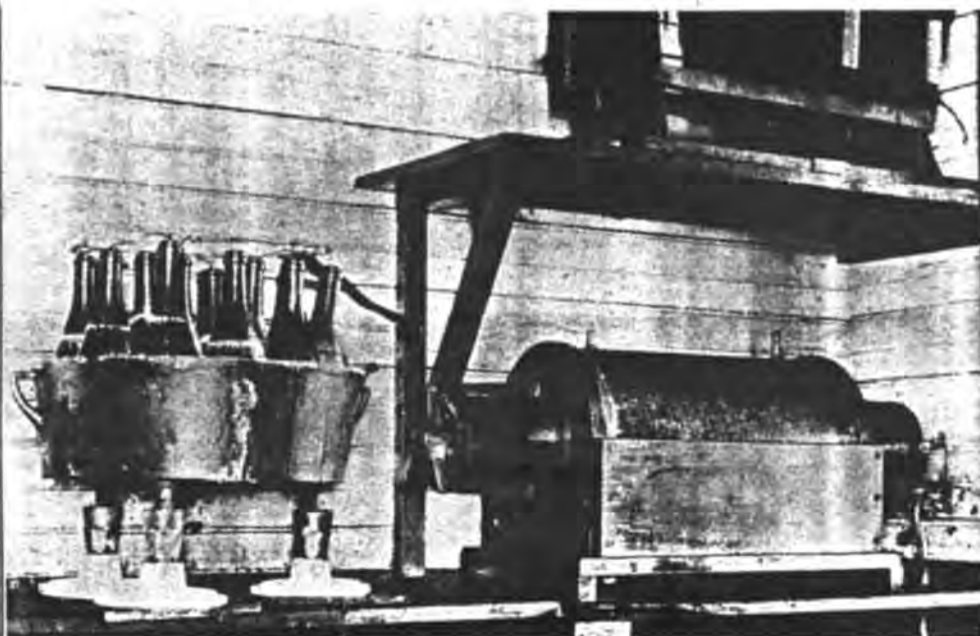
TRT. Historical Paper - Harris

(Continued from Page 27)

I had been the wireless operator aboard the oil tanker "Communipaw" (Standard of Jersey) for about 8 months. In January 1917 we sailed from Philadelphia for Arhus, Denmark. We were about 24 hours out, loaded and kite-ing before a westerly gale, when I heard the old Marconi station at Wellfleet, Cape Cod, sending the general call to all ship stations, followed by broadcast messages from owners to all U.S. registry and neutral vessels headed for the blockade zone calling them back immediately to U.S. and western Atlantic ports. Germany had just declared unconditional blockade around the British Isles in disregard to neutrality laws. I intercepted the message addressed to our skipper, who promptly put our ship into the teeth of the gale; it took us 72 hours from our position 24 hours out to get to New York harbor. I recall reflecting at the time how fortunate it was I was using my DeForest audion detector, for without it I might not have been able to copy the Wellfleet station's marginal signals. Not many weeks later, April 6, 1917, the U.S. was at war with Germany and dreaded World War I had started.

The Company system as developed by 1915 furnished greatly improved communication between the States and Central America though frequent interruptions occurred during the heavy static season. I was stationed at Swan Island from 1918 until early 1921 and recall numerous instances when no traffic could be moved to or from New Orleans for several days at a time. It was often necessary to send each letter of a word twenty times or more. The receiving station acknowledged receipt of each letter by making a long dash. We frequently worked the clock around moving traffic under terrific static conditions. But operators of that day were trained under the slogan "Keep traffic moving accurately." A business man or firm did not send a message unless time was of utmost importance or value. Rates then were high. There were no deferred classifications and all wireless messages took cable count.

By 1915 or 1916 our Company had an appreciable investment in spark equipment. Our engineers and executives visualized the possible development of vacuum tubes for use in transmission and they decided not to go into arc and alternator equipment which was developed and applied by other communications companies between 1915 and 1920. Until 1920 the parent company's dream of a Central American radio communication network providing reliable uninterrupted service had not been realized but Mr. Preston's early plans for linking all the Central American countries were rounded out by Mr. Davis and Mr. Beakes. They had followed closely the development of the vacuum tube and in 1921 a contract was closed with RCA and the General Electric Company for the purchase of seven 20 KW vacuum tube transmitters. This power rating was based on transmitter output capability. The earlier spark transmitter ratings were based on power input to the high tension transformer. By 1920 radio engineering was quite well established and some data had been accumulated on signal fields required for reliable communication over given distances on long waves. Some information was also available on static intensities. Twenty kilowatts of antenna power appeared to be sufficient to insure reliable twenty-



[3] BLUEFIELDS, NICARAGUA - Wireless Station - Built in 1906

This picture shows famous Bluefields emergency condenser which restored service after failure of American-made Leyden Jar condensers. It was made of empty European champagne bottles filled with salt-water and set in an old iron cook vessel; the iron vessel was insulated from the table with old bar whiskey glasses. European glass was superior to American glass. There was an ample supply of bottles and glasses in Bluefields if replacements were needed; however, this condenser remained in service from 1908 until the station was dismantled in 1925.



IMPORTANT NOTE ABOUT PICTURES

QUALITY - Many of the photographs used are 'copies of copies' from pictures taken from 50 to 75 years ago and most yellow with age and other imperfections of the the 'state of the art' of that era - especially in the tropics. It does preserve in picture form, views of stations and equipment used in days long ago albeit with some sacrifice in clarity which can not be helped.

PLACEMENT OF PICTURES: The pictures used from Mr. Harris' Historical Paper delivered before the Boston section of I.R.E. on Nov. 14 1941 were originally slides and numbered for the 'illustrated' talk presented that date. Many of the pictures will be found throughout the JOURNAL and numbered per reference in this article. Some will be shown under alphabetical order of UFC stations. On a few the reference number has been dropped such as the Map of Wireless Stations of UFC in 1910 as shown on the front page of this Journal.

four hour service between New Orleans and tropical points without the necessity of a midway relay point such as Swan Island. The 1921 program visualized installation of one of these new 20 KW tube transmitters at a new terminal station to be established near Miami, Florida, and one each at New Orleans, Puerto Barrios, Guatemala; Tegucigalpa, Honduras; Managua, Nicaragua; Cartago, Costa Rica; and Almirante, Panama. These transmitters were to work into multiple tuned antennas employing 400-foot steel towers. The plans included new buildings, sites, generating equipment and elaborate ground systems. Construction work got underway in 1921 and all installations were completed by 1925.

Pictures 10 to 14, inclusive, illustrate typical installations made between 1921 and 1925 at the points previously mentioned. These stations operated in the frequency range 60 to 100 kc. During the period the old Bluefields Station was rebuilt and equipped with smaller tube transmitters and modern receivers; as were the stations at Tela and Puerto Castilla, Honduras; a new station was built at Preston, Cuba, in 1927. This system finally provided reliable twenty-four hour communication between the United States and Central America. It was a costly system to operate. The water-cooled tubes used in the power amplifiers of the large transmitters cost about five hundred dollars each at that time and power expense also became an appreciable percentage of operating costs. But since the service had been extended to the capitols of each of the Central American republics, new sources of message revenue were tapped and Tropical pursued an aggressive public communication service policy. Commercial activities were handled by Mr. R. V. Howley, an old Fruit Company man, and now our Vice-President. While our system was originally established to provide communication for the United Fruit Company, it was from the beginning in 1904 made available to the general public in the Central American areas which we served and which had no other means of communication. In line with the new commercial policy a circuit was opened with Bogota, Colombia, and others later with Havana, Cuba, and San Juan, Puerto Rico. Still later, circuits were established with Mexico; Nassau, Bahamas; and Belize, British Honduras. All these stations were operated by other agencies. By 1925 all of the old spark equipment had been replaced and the Swan Island station was closed December 5, 1927. The old original Bocas station, located on Maca Hill, was dismantled in 1921 following the erection of a new station at Almirante about twelve miles away at the head of Almirante Bay.

The new long wave tube installations had hardly been completed when short wave transmission appeared on the horizon. Our company began experiments with short wave transmission in 1926 and by 1928 had paralleled many of its long wave circuits with circuits operated on high frequencies employing appreciably lower transmitting powers. A station at Boston was acquired March 27, 1920, for communication with ships at sea. This was the old Fessenden experimental station located on the Board of Trade Building at 131 State Street and used for experimental high frequency alternator transmissions to Bush Terminal, New York. Our original equipment there consisted of Wireless Specialty spark transmitter which was replaced in 1923 with a 1 KW tube transmitter of General Electric manufacture. On December 1, 1922, Tropical leased from the Navy the old Marconi Station at Miami Beach, Florida. It had been sold to the Navy when the United States entered World War I. This station was later relinquished when we built the large terminal station located at Hialeah some ten miles northwest of Miami.

In 1926 and 1927, experimental short wave circuits were established between the Boston and Miami Stations and between Miami and New Orleans Stations. In 1928, a number of RCA-General Electric high frequency tube transmitters were purchased, two of which were installed in New Orleans, and one each at Managua, Nicaragua, and Cartago, Costa Rica. In 1930 a new high frequency station was established in Panama City. It was also equipped with one of these high frequency trans-

(Continued Next Page)

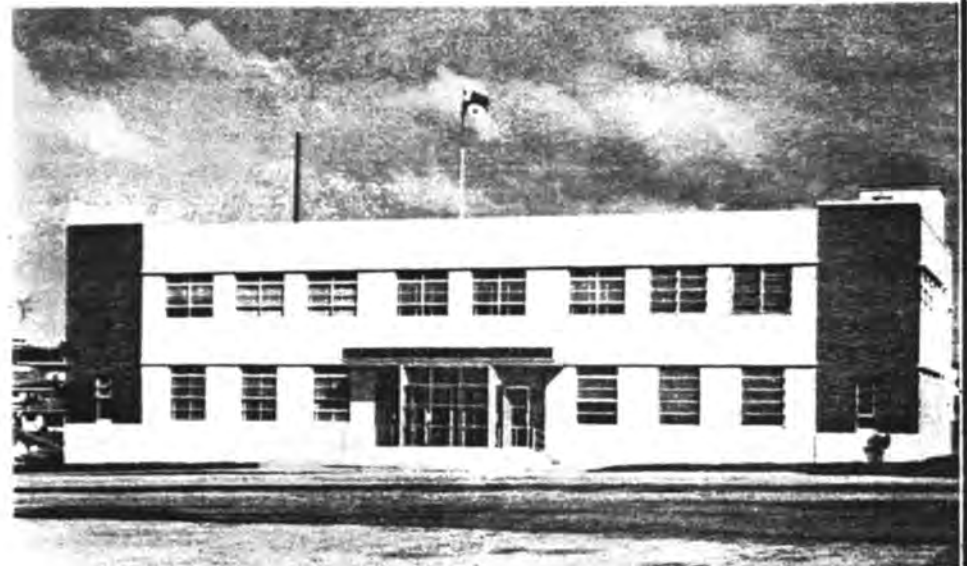
mitters and several smaller ones. In 1929 we carried on some experimental short wave broadcasting from our Tegucigalpa, Honduras, station. A high frequency transmitting station was established on the roof of 1 Federal Street, Boston, in 1928 and direct circuits between Boston and various Tropical points were put into operation. The old 131 State Street station as well as the one on the roof at 1 Federal Street were replaced in 1930 by a new large station located at Hingham, twenty miles south of Boston. The 20 KW long wave tube transmitter originally installed at Puerto Barrios, Guatemala, in 1924, was shipped to Boston and redesigned and rebuilt for operation on the somewhat higher frequencies used in the marine service. This transmitter was ultimately crystal controlled in about 1932 and was the first long wave transmitter on the Atlantic coast employing quartz crystal frequency control. The frequencies thus controlled were 147, 436 and 500 kc. In 1932, a new high frequency station was established at Guatemala City, Guatemala, and opened to traffic January 23, 1933.

The spark transmitters aboard ship had been replaced with vacuum tube transmitters prior to 1927. Several years later high frequency transmitters and receivers were added to ship installations.

In 1932, in collaboration with the American Telephone and Telegraph Company, Tropical Radio entered the radiotelephone field in Central America. Here again our company provided the first radiotelephone service available in Central America. The A.T. & T. Company established its Caribbean Terminal Station on our property at Hialeah, Florida. Tropical purchased equipment for its Central American stations from the Western Electric Company. The transmitters, known as the D-Spec type, had a power output rating of 400 watts fully modulated. These were conventional double sideband transmitters. The transmitters operated into rhombic antennas directed on Hialeah and the receivers, known as the Western Electric 13 Type, were used with rhombic receiving antennas directed on Hialeah, Florida. At Panama City our station had moved to new transmitting and receiving sites about ten miles from the city. Control terminal equipment was provided for connecting the four-wire radiotelephone circuit to the two-wire central office telephone exchange at Panama City. Teleprinters were installed to transfer telegraph message traffic between our city delivery office and the control and receiving station. The other points to which radiotelephone service was established were Cartago, Costa Rica; Managua, Nicaragua; Tegucigalpa, Honduras; La Lima, Honduras; and Guatemala City, Guatemala. All these stations furnished service to the public on a four-wire basis to telephone booths located at convenient points in each city. The circuits to all these points with the exception of Panama are still being operated with the original equipment and they are reasonably reliable. Telephone service with Central America is, of course, available to and from all points within the United States as well as some overseas points via the long lines toll service of the American Telephone and Telegraph Company and their Caribbean Terminal Station at Hialeah. A.T. & T. has also established telephone circuits between Hialeah and the island of Jamaica; to Nassau, Bahamas; the Dominican Republic; Venezuela, Colombia, and to San Juan, Puerto Rico. During the



PANAMA CITY - Exterior of "Down Town" Office of earlier day. Picture from collection of Marvin Aimes Jr.



PANAMA CITY - PANAMA STATION - 1958

Traffic Control Center on Avenida Samuel Lewis. Constructed in 1956. C.C. Harris Photo

PANAMA T.R.T.



PANAMA CITY - 1958

Traffic Control Center, showing operations largely converted to teletype operations. Station located in Avenida Samuel Lewis building located in city suburbs. Photo from collection of C. C. Harris.



PANAMA CITY TRANSMITTING PLANT

The Campo Pina Transmitting Plant, constructed in 1950. Picture from C. C. Harris Collection.



EARLY 'WNU' NOLA

HISTORICAL PAPER C.C. HARRIS

(Continued from Page 29)

period 1930 to 1935, Tropical established a radiotelephone network within Central America linking together by telephone practically all points which they were serving by radiotelephone.

Between 1935 and 1940, improvements were constantly being made in our facilities - particularly in transmitters, receivers and antennas. High frequency telegraph transmitters were redesigned and rebuilt at a number of stations to employ later types of tubes and more efficient performance. High frequency transmitter power outputs were increased and directional antenna systems were constructed for both transmission and reception. These improvements were for the purpose of getting our circuits ready for the time when we would have to adopt automatic methods of handling message traffic. An experimental radio printer circuit was set up between Hingham and La Lima, Honduras, in 1935 for the purpose of obtaining data for future use.

Most of our message traffic is handled manually, though automatic tape transmission has been in use on important circuits at the Panama City and Guatemala City stations and for press transmission from New Orleans for several years.

To speed up the remaining necessary improvements to meet existing and anticipated traffic demands, an extensive program was prepared early in 1940. Our Engineering Department was reorganized at that time to facilitate carrying out the remaining plant work and to accomplish better coordination of plant facilities and operation.

A large part of the 1940 program covered more modern facilities for our Panama City Station. In order to meet service demands and cable competition, we decided to establish a "City Traffic Office" set-up, whereby all operating would be carried on from our office in the business district of Panama. This would permit elimination of the Teletype link and double handling of all traffic between the receiving and control station nine miles outside the city and our city pickup and delivery office. Such a set-up requires a diversity receiving system for the longer circuits and the wire facilities make a voice frequency carrier telegraph system between the transmitting and receiving stations and the city a necessity for automatic retransmission of received traffic to the city, as well as for controlling the transmitters from the City Office.

Accordingly, a new receiving antenna system consisting of seven horizontal rhombics was designed and constructed during the dry season, January to March 1941. This antenna layout provides two unit diversity, largely on the phrase diversity principle, from five stations and normal single antenna reception from six other stations for which the diversity system is not now required. All antennas are coupled with special transformer units to 70 Ohms copper-ceramic nitrogen-filled coaxial transmission lines.

The telegraph receiving installation will consist of a bank of about twenty single frequency crystal controlled receivers and twelve diversity combining units. Both the receivers and diversity combining units have been developed by us by the National Company and are under construction by them. We expect to have the new system in operation early in 1942.

Early in 1940 it was apparent that improvements in our overseas telephone facilities at Panama would be necessary to meet the increasing demand for service, particularly to the States as a result of the Defense Activities at the Panama Canal. In collaboration with the American Telephone and Telegraph Company, plans were made about the middle of 1940, to establish a direct telephone circuit between New York and Panama. The A.T. & T. radio terminal was to be at Ocean Gate, New Jersey, for transmission and at Manahawken, New Jersey, for reception. Plans embodied the latest type of Bell Laboratories design - Western Electric constructed single sideband transmitters and receivers and the latest type of automatic voice terminal and privacy equipment, including sending and receiving Vogads, noise reducers, ringing equipment and our own PBX board at Panama for connection with the Canal Zone and Panama City telephone exchanges.

The new installation at Panama was completed and opened to service with New York, July 11, 1941, using one channel on the carrier frequency. Equipment for Twin Channel operation is on order with the manufacturer and we hope to have the complete twin channel circuits available early in 1942. Twin channel operation has been used since September, with older type privacy and terminal equipment for passing tickets while calls are going through on the "A" channel.

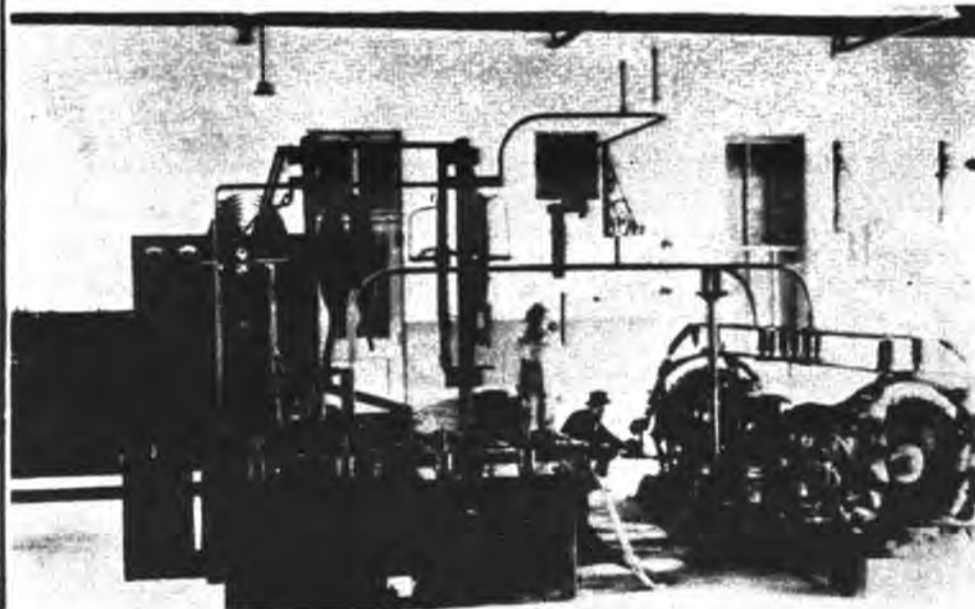
The single sideband receiver operates from a single unit single wire rhombic antenna directed on Ocean Gate, New Jersey. It embodies automatic tuning facilities and operates unattended a large part of the time.

(Continued Next Page)



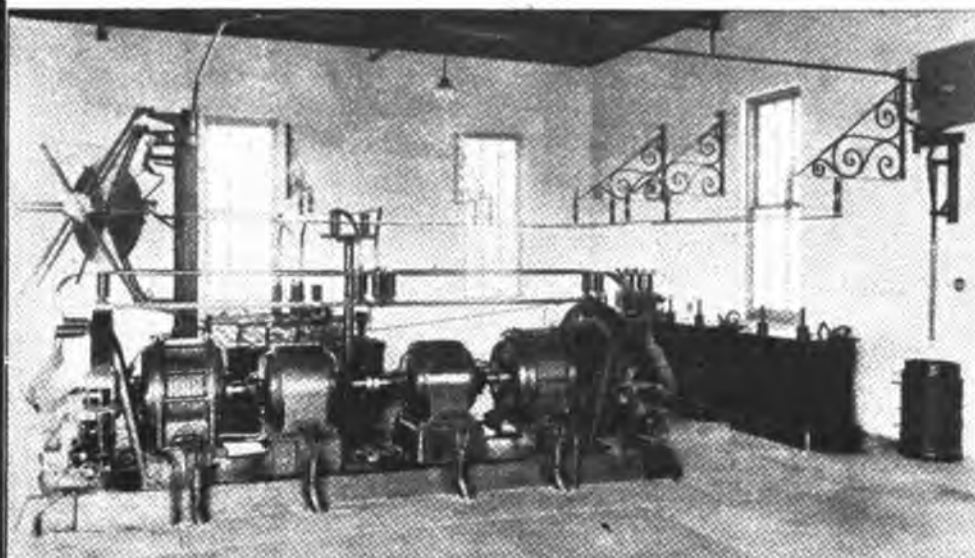
NEW ORLEANS WIRELESS - WNU - 1912

This station was built by United Fruit Company in 1912 in the City Park at New Orleans to replace the first station on the roof of the Hibernia Bank which was purchased in 1907 from the United Wireless telegraph Co. This picture shows store house, operating house, generator house and four 320-foot tubular steel masts CCH Photo.



"WNU" - NEW ORLEANS - TRANSMITTER

This picture from the collection of C. C. Harris was taken circa 1915, showing the Transmitter Room with its two 40 KW synchronous spark gap wireless transmitters. [5]



The Generator Room of the New Orleans (WNU) Radio Station showing two 40 K.W. Units. Taken circa 1915

Early Days of 'Tropical Radio'— Concludes Paper Presented in 1941

By Charles C. Harris, Chief Engineer

The transmitter operates into a twin rhombic antenna directed on Manahawken, New Jersey, which provides an overall gain of approximately 20 DB. Measurements made by the American Telephone and Telegraph Company at Manahawken indicate the twin antenna furnishes a gain of five to six DB over a single antenna unit. Each unit is a three-curtain antenna and is fed by its own transmission line from the transmitter. The twin lines must be of equal electrical lengths in order to preserve an alignment of the beam with the physical axis of the system and to avoid other difficulties due to unequal phase shifts down the line. This imposes rather rigid constructional limitations. Each antenna of the twin is terminated at its front-end in a 600 Ohm 1000 watt special hydrogen-filled non-reactive resistor developed by the Bell Laboratories.

The original dream of Messrs. Musgrave, Preston, Keith and Davis of continuous communication between all of Central America and the United States of America has been realized and probably far exceeded. The present organization visualizes still greater expansion and development for the future.

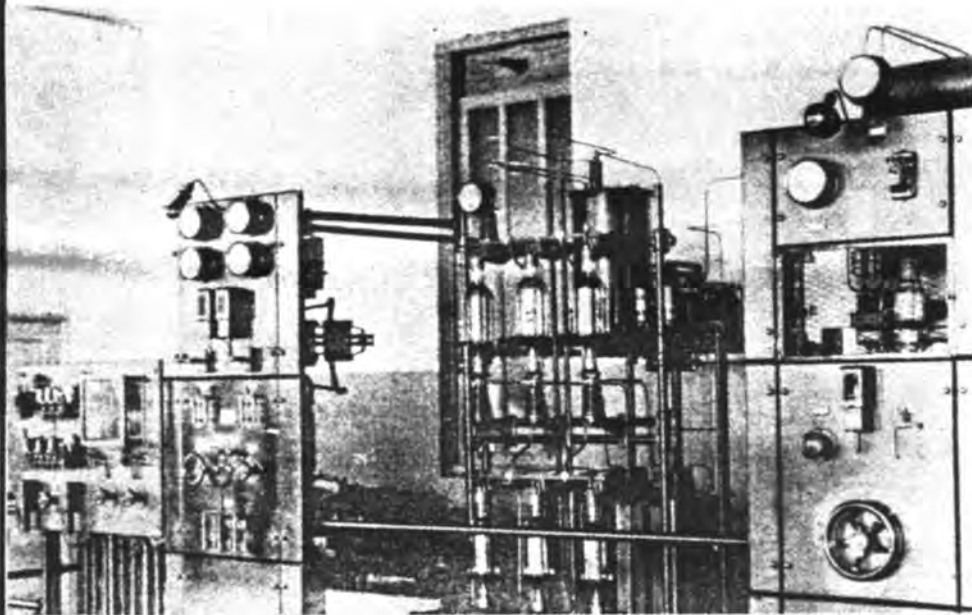
Our system today comprises nineteen owned shore stations in Central America and the West Indies and approximately one hundred ship stations. It is handling approximately 7,600,000 words of paid public message traffic, 1,500,000 words of press transmissions and approximately 182,000 minutes of radiotelephone calls.

Written November, 1941



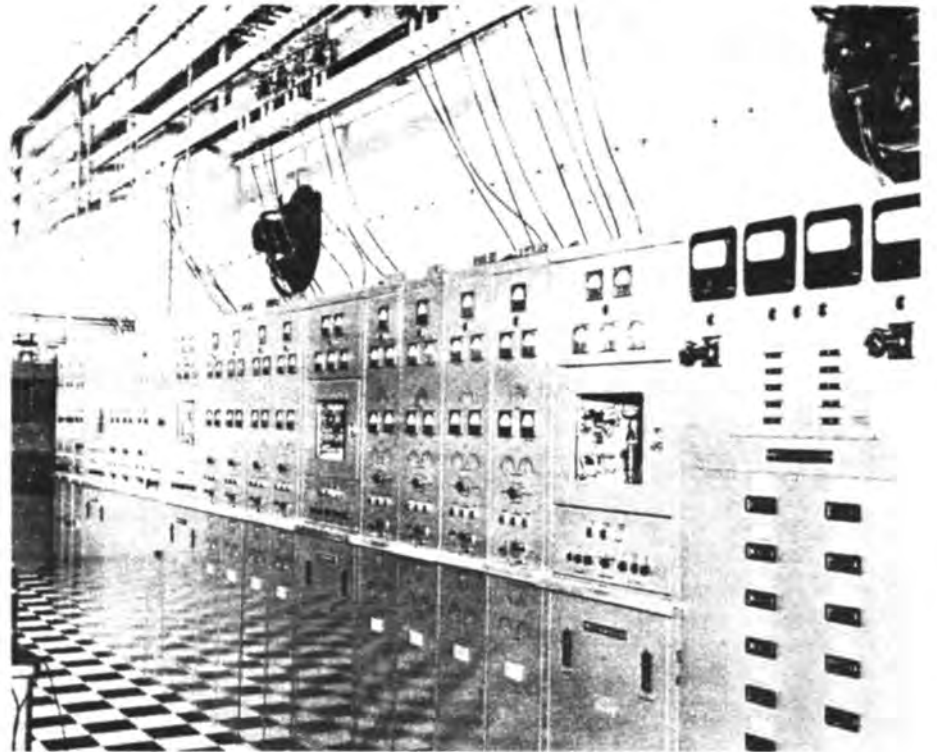
RECEIVING STATION "WNU" 1958

Picture of the Receiving Station and Traffic Control Center Constructed in 1957 at Pearl River (Photo by Charles C. Harris)



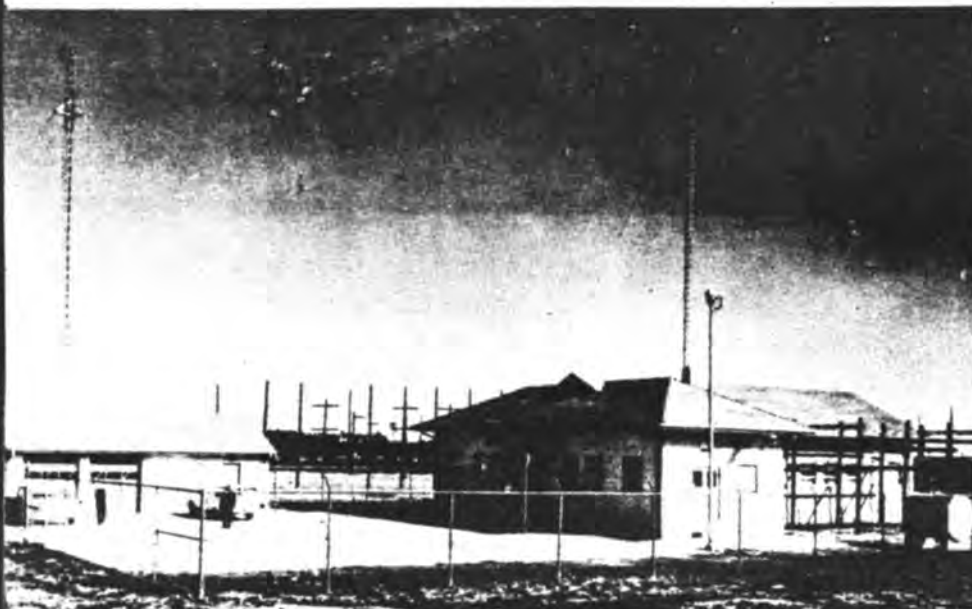
"WNU" TRANSMITTERS - TUBE EQUIPMENT, CIRCA 1924

Part of G.E. ET-3624, 20-KW "Long-wave" Vacuum Tube transmitter installed. Shown are power panel, UV-219 Kenetron Rectifier and 1 KW Master Oscillator which drives 20 KW Power Amplifier. (C.C. Harris - Photo)



TRANSMITTERS - WNU - 1959

Picture of the Westinghouse Type "MW" Transmitting equipment installed at the Slidell Station. Picture shows the overhead antenna switching frame. (C.C.Harris - Photo)



STATION "WNU" NEW ORLEANS - 1958

Picture of the Transmitting Station constructed in 1957 at Slidell, near New Orleans.



RECEIVING STATION WNU 1959

Picture shows the Traffic Center at Pearl River and Section with teletypewriter installation. (C.C. Harris - Photo)



Still Pioneering in Communications

TRT Telecommunications Corporation •

THE NEW LOOK

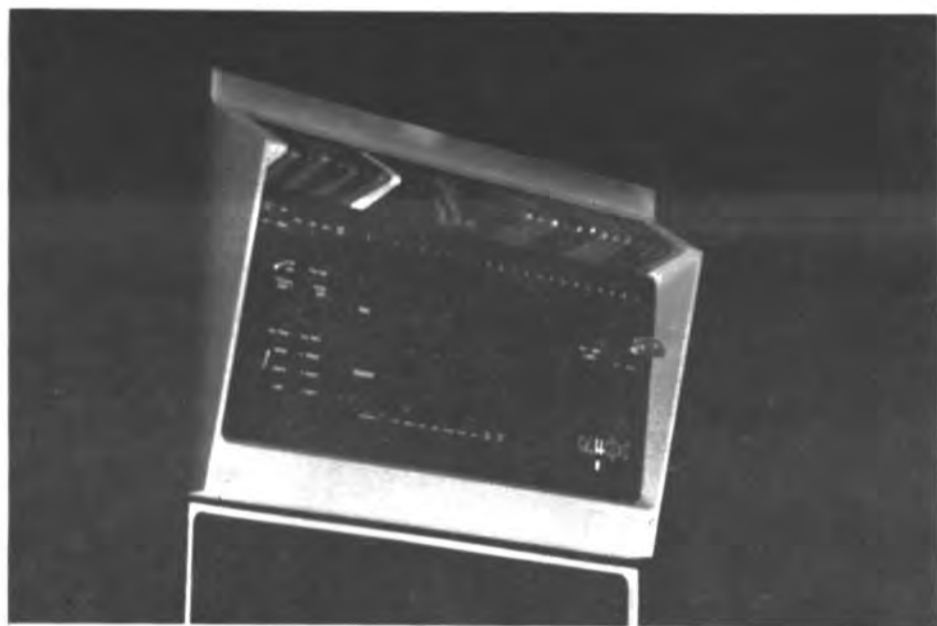


WNU

Close up of one position of operational console where Radio Operator, J. Edwards is using an electronic keyer, memory enhanced. Other equipment in picture include are receivers, mini-toggle keyline/Marker controls and automatic electronic channel scanners.

OPERATIONAL CONSOLE AT WNU

This is the main operating office at WNU today. It provides capability for nine [9] Radio Operators to work simultaneously with vessels on the High Seas. Pictured (L/R): T. Edge, J. Edwards, C. Sheppard, M. Ethington, B. Crawford, M. Campbell, J. Leake, F. Estrada, B. Norris. The Operators all use the file in center to check various ships traffic awaiting to be 'cleared'. They work all marine frequencies plus radio-telephone, RTTY, etc. A lot of traffic is still moved by manual CW thought ("Jock" Maclaren).



WAX - FT. LAUDERDALE

Close up view of D.E.C. "Processor" [PDP 11/70] used to facilitate automatic switching, worldwide at International Facilities station at Fort Lauderdale, Florida.



WNU - SPECIALIZED EQUIPMENT.

This is a Baudot/Morse "Convertor" which converts teletype perforated tapes to morse code, used at WNU for all traffic lists and Weather Broadcast transmissions.



WNU

External view of Slidell Radio Receiving Station and control site located on the Pine Street Extension, Pearl River, L.A.

This is the story of TROPICAL RADIO — A pioneer in the development of radio-telephone and radio-telegraph communications in Middle America . . . A business which has grown as the demand for its services has increased . . . A system, hemispheric in scope and world-wide through connections, which progresses and improves with new discoveries in its field.



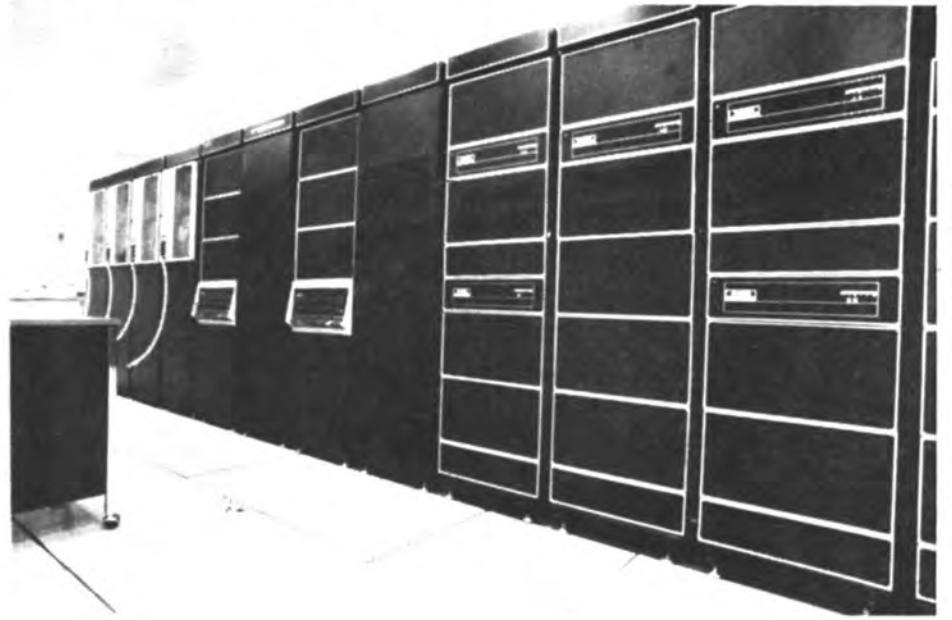
WNU...
Partial view Slidell Radio's Transmitters and rectifiers. In attendance: Standing - H. Falk, Seated - T. Mulholland.



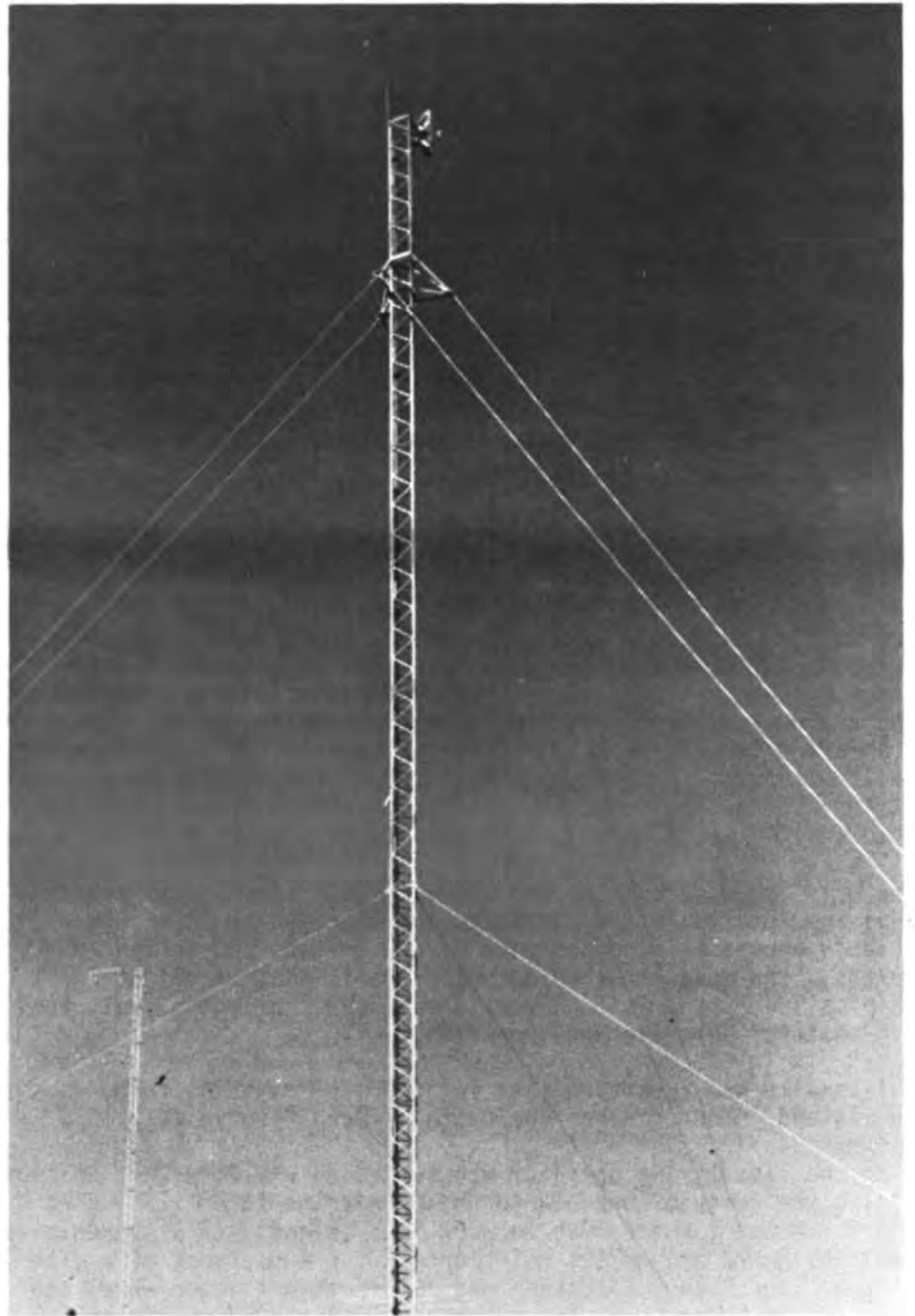
WNU
Wide angle view of WNU's "Hermes" Directions" - Omni Directional receiving antenna array.



WNU
External view of Slidell Radio Transmitter site, located off Ganse Road, Slidell, LA. In background WNU's 150 ft. towers which support medium frequency 400 foot long double wire "T" antenna. Elsewhere are portions of 'doublets' and rotatable beam.



WAX - FT. LAUDERDALE, FL.
TRT's International message switching system. Through dedicated, Direct traffic trunks from WNU, this modern computerized switching network allows TRT to route messages worldwide, automatically - just minutes after receiving " QSL" from Slidell Radio.



WNU
One leg of Slidell Radio's 75" Microwave antenna system (foreground) Providing for emergency control of transmitters in event of failure of primary control via metallic lines.(background)- Partial of M/F Transmitting antenna.

THANK YOU **TRT** Telecommunications CORPORATION

Pictures used on these two pages were furnished by Peter Scott, Manager - Marine Services of TRT Communications Copr., Miami, Florida. Thanks for permitting us to see the "New Look" of WNU and WAX.

W.A.Breniman - Editor

Potpourri of Experiences & Adventure

TROPICAL RADIO TELEGRAPH COMPANY

By—Raymond M. Muro

I joined Tropical Radio September 27, 1923. I had previously applied for employment in July, 1922, after securing my radio license issued by the Department of Commerce later changed to Federal Radio Commission around 1932, then later changed again to the present Federal Communication Commission. TRT suggested I come back after I had at least a year's experience.

In those days we had three radio companies to select a job with other than TRT. They were RCA, Ship Owners Radio Service and Independent Wireless Company

Since I had to get experience, I applied to Ship Owners Service and was assigned to the sea-going tug BASCOBEL KOF5, from August 1, 1922 to February 3, 1923. Next I was assigned to the SS CITY OF MIAMI running between Miami and Havana carrying about 300 passengers a trip. I served from February 21, 1923, to April 1, when she went out of service. I then applied to TRT again but they had no openings so I went back to Ship Owners Radio Service and they assigned me the SS LIO KDSO, one of the largest tankers afloat at this time and equipped with a 2 KW Poulsen ARC transmitter. The ARC transmitter operated on 600 meters ICW but was only good for short distances, but was excellent for operating on 1000, 1500 and 1800 2400 meters CW but for one thing we didn't have many land stations guarding 1800 or 2400 meters CW. KFS San Francisco made up for the lack of ARC stations. You could always raise KFS on 1800 or 2400 regardless of where you were. I might say it was the ambition of most radio men to serve on the United Fruit Company ship (TRT) especially the large passenger ships. Mr. H. O. Easton was General Superintendent, New Orleans, Mr. E. L. Commagere was Assistant Superintendent.

My first five years in TRT, I rotated between New Orleans WNU and the TRT ships, usually having to relieve the Chief Operators on vacation or for a trip off.

While assigned to WNU Tropical's big New Orleans station known as the City Park Station, my first assignment was working WBW, Burwood, TRT's marine station at the mouth of the Mississippi River and the marine station for New Orleans. WBW maintained hours from 7 a.m. to midnight. During those hours WBW handled all marine traffic relaying it to New Orleans WNU every 30 minutes on 1500 meters. However, WBW was kept on a speaker in the event it had urgent ship traffic. Eventually WBW was closed and all ship traffic was handled by WNU direct.

The only other circuit at WNU was with Swan Island call letters (US) and located in the Caribbean and operated by TRT. The Islands operators were assigned by New Orleans and served 18 months, the usual tour of duty for the Island, A United Fruit ship called at the Island every three weeks, bringing fuel, food and whatever supplies they required.

TRT usually had a waiting list for operators wanting to go to the Island. Most of them would stay around five years.

I am the last living operator who served at WNU City Park Station during the reign of her big 40 KW spark transmitter. WNU used the 40 KW Sync. Rotary Gap to work Swan Island. This transmitter could be heard around the neighborhood for a distance of a mile or two. The Rotary Electrode was larger than a wagon wheel and when it was being used, the sparks would light up the entire transmitter building. I lived about a mile from the station and practically learned to gain speed in copying code. If I remember correctly, this transmitter was on approximately 3800 meters. During the winter months traffic moved normally but during the summer (static season) when sending code it was necessary at times to send each letter 15 or 20 times. Many days it would be impossible to move traffic. Swan Island was installed to handle United Fruit business to the Tropics, also to handle Belize BH messages who otherwise would have been isolated from the world. Swan Island relayed all traffic to TRT Tela, Honduras, call letters (UC) who in turn passed it on to the stations UA Pto. Castilla, UG Tegucigalpa, Honduras, Lalim Honduras, Guatemala and Belize. And Fruit ship docked in Pto. Barrios, Guatemala, had to act as the land station receiving and transmitting any United Fruit business working Tela every hour.

Eventually TRT installed 20 KW CW transmitters in New Orleans, Barrios, Tegucigalpa, Almirante Panama, Cartago, Cr., Managua, Nicaragua. These transmitters operated in the neighborhood of 3300 meters. After installation of the 20 KW, New Orleans began handling coffee messages to Columbia, relaying this

traffic through Almirante. Shortly thereafter we began handling commercial traffic to all of the above listed stations.

After the 20 KW CW was installed at New Orleans and Tropics, the need for experienced engineers and radio operators would be necessary in the Tropical stations. WNU became the training station to supply the needed help. We usually had 7 to 10 operators breaking in. With the 20 KW in operation, the receiving station was moved to Shrewsbury, La. where we began more Morse circuits on continuous service with all our Tropical stations. After several years in Shrewsbury we outgrew the one acre of land the receiving station occupied. Since we moved to Shrewsbury we had been experimenting with Printers on Hi-Freq which proved to be very successful. From Shrewsbury we again moved up the river to Harahan, La., with the transmitting station moving further up the river to River Ridge, La. The Harahan station had 32 acres of receiving antennas. Moving to Harahan gave us the needed land to install our new antennas for Hi-Freq. Printer operation.

We had the greatest group of men at City Park you could find anywhere. Leon Carrington was Chief Operator, Johnny Hayes, Assistant Chief Operator. Radio operators were William Redd, G. Soney, John MacCallum, Charles Whitney, Bob Brackett, Walter Berridge, Ralph Chamberlain, Tom Dobyns, J. W. Leathers and R. Muro.

Morse (wire) operators were Tony Stoltz, J. Dobbins and Bob Shaw. We had Morse (wire) circuits to the Western Union and Postal Telegraph. Also Morse was used to the United Fruit Company Building on St. Charles Street. About 1927, Printer Circuits to Western Union, Postal and United Fruit were installed.

During World War II on September 7, 1942, WNU Marine facilities were taken over by the United States Coast Guard to handle wartime Marine notices, distress calls, etc. A direct Printer Circuit to Navy Headquarters and Coast Guard Headquarters, Washington, was installed. The Coast Guard also inducted WNU's four Senior Operators into the Coast Guard as Chief Radiomen, R. Muro, L. Hargus, Jim French and Maurice Sazer, later assigning more regular Coast Guard operators. WNU acted as a spy hunting station but most of all to pick the distress calls from ships being torpedoed. Before the Coast Guard requisitioned the station we would copy all SSS sub sighted messages and torpedoings and phone them to the Algiers Navy Station. It appeared the Navy Stations also were copying the distress messages but the inexperienced Navy operators were getting their positions incorrect, causing planes and destroyers being sent to the wrong destination. We were sending in the correct positions so the government decided in order to save lives at sea, it would be better if we handled all distress messages. This was told to me by a Captain in the Coast Guard at Headquarters in Washington. The Coast Guard also requisitioned Stations WAX, Miami, Fla., KPH, Portland, Oregon, WSL, New York and KFS, San Francisco, Calif. The Coast Guard Station WNU was instrumental in establishing the first communication with the American Guerrillas (U.S. Marines) on Bataan after the fall of the Philippines. After reporting our contact with the Guerrillas to the Navy/Coast Guard in Washington, they assigned KFS San Francisco to maintain communications.

On January 1, 1946, to May 23, WNU's call letters were changed to NMG until reverting back to WNU, May 24, 1946. On August 17, 1957, WNU moved to its present location at Pearl River, La.





By—Thomas H. Ellis

Period 1929 to 1942

Officially I became a member of the TRT family when the company I was with, the Cuyamel Fruit Co., New Orleans, La., was acquired by the United Fruit Co., Boston, MA. This was in 1930. I had joined the Cuyamel Fruit Co. as a R/O in 1929.

My first ship with Cuyamel Fruit was the S/S TOLTEC of Honduran registry, whose radio call letters were HA. This two-letter call signal caused quite a bit of confusion, as all call letters in those days were four letters. (There were Honduras coast stations also with two-letter calls.)

The SS TOLTEC was the first of three refrigerated ships that Cuyamel had ordered from Barclay Curle Co. in Scotland. The SS TOLTEC sailed on her maiden voyage from Scotland in March, 1929. She was followed by the SS AZTEC (R/O Robert H. Pheysey) and the SS MAYA (R/O Milton King). At that time they were the newest and fastest ships built for the banana trade.

Fred Muller was Marine Radio Superintendent in New York City. Later Fred became a Captain in the U.S. Navy. I have never served under a finer individual. Also on the Marine staff in New York City was Capt. "Ebbey" (Viggo H. Conradt Eberlin of the Jack Binns chapter).

In the early part of September, 1931, while R/O on the SS TOLTEC, we were diverted to Belize, British Honduras, because this city had been devastated by a hurricane. A tidal wave swept over the city causing the loss of several thousand lives. All communications were out in the city. The SS TOLTEC's radio was the only means of communication with the outside world. Together with 2nd R/O Herman Meyerhoff, we maintained a continuous watch for over 48 hours. We cleared volumes of traffic under the most trying condition of signal fading and heavy static. (Remember these were the days before Short Wave.) All the traffic was routed through TRT station WAX at Hialeah, Florida. For this work we received high commendation from the Governor and Colonial Secretary of British Honduras. (Recently the name was changed to the country of Belize.) The TOLTEC also evacuated many of the survivors to the port of Puerto Cotez, Honduras.

In those days there were many Skippers who had been trained in sail and "Sparks" was not always his favorite officer. However, as the years passed they came to respect us and the work we did. Most of the R/O's were a dedicated bunch and we were proud of our company. The Chief R/O's salary was the grand sum of \$150 per month, which was much higher by far than what some shipping lines were paying.

A couple of the following stories about UFCO skippers may be of interest.

Captain "Hurricane" Harry Spencer was a senior captain and commanded the largest of the UFCO ships. These were first class passenger ships, running to Cuba and Panama. Capt. Spencer had the reputation of being a strict disciplinarian and was noted for his "salty talk." Once when he was casting off the lines of his ship leaving the port of Puerto Limon, Costa Rica, the head stevedore came rushing down the dock shouting, "Captain, hold everything. We have some additional bags of coffee we want to put aboard." Capt. Spencer, speaking into the bull horn (it could be heard fully a quarter of a mile away) from the wing of the ship's bridge, replied, "You know what you can do with that coffee? Not bag by bag but bean by bean!!" He gave orders to let go the lines and he steamed out of port. The passengers chuckled about this for many days after. He was a skipper of the old school but he appreciated the art of radio and was appreciative of the wireless men.

Another Captain in the UFCO was Charlie Glenn. He was a very strick spit-and-polish Master. He was not too popular with the R/O's. He died in Panama and his wish was that he be cremated and his ashes scattered from a UFCO as it passed Cape Hatteras. Our ship happened to be the one that carried Capt. Glenn's ashes. In the first place we were not too pleased when we were mustered on deck at 4 a.m. as we passed Hatteras to throw Capt. Glenn's ashes overboard but when a back draft carried his ashes across our faces we felt that the old skipper was having his last "crack" at us.

TRT/UFCO was a great company, or companies. I mourn the passing of the Great White Fleet. (TRT is still operation, as you know.) I also have fond memories for the wonderful shipmates that lost their lives in World War II. We can be proud of them. ■ 30 ■

Weather Wise



By—Herb Gleed

Tropical Radio Telegraph Company was an efficient point-to-point communications network. I am speaking of the mid-1930's when all traffic was handled manually by some really good operators. This was before the advent of RTTY.

The mainstation of the system was located at Hingham, Mass., about twenty miles from Boston. The transmitters were in the 2,500 watt power class and were fed into several rhombic antennae. This was quite convenient because all the points to be contacted were to the south in Central and South America. Through this network of stations the United Fruit Company could keep in constant touch with its many banana plantations.

The Hingham Complex held continuous schedules with Guatemala City, Lalima, Honduras, San Jose, Costa Rica, Santa Marta, Columbia, Panama City, New Orleans and Miami. These large stations relayed to and from the smaller stations in their respective countries.

While at Hingham for a short while to get acquainted with the system, I saw a typical radiogram from Panama handled very quickly. From the time the operator at HPE started sending until the message was received and then puched out on the wire TTY circuit to #1 Federal Street in Boston (UFCO) the time elapsed was about five minutes.

When I went to work for TRT I was told that the way to get ahead ahead with the company was to put in time at one of the tropical stations and work your way up. In 1936 (I was 21 years old at the time) I accepted a post as the second operator in a small two-man station, YNB, Bluefields, Nicaragua. Gene Lester was the Chief OP. It was really light duty. I attended two continuous circuits (YNA, Managua and YNE, Puerto Cabezas) from 12:30 to 4:20 p.m. Then after a few beers I returned for about ten minutes to clear all remaining traffic for the night at 6:20 p.m. We then closed down for the night. The whole world could have fallen apart as far as we were concerned because Bluefields had no other contact with the outside world until the next morning.

The worst feature of the job was the weather. It was hot, humid and rained practically all the time except during the dry season which was two weeks in March!

Our radio equipment was nearly new when I arrived. The transmitter was Collins 750-watt C.W. and grid-modulated phone with the Western Electric speech inverter for privacy. We handled radiotelephone calls to the other Central American countries. Every Sunday the duty consisted of copying press from WFL/WFD New Orleans to be distributed to a handful of subscribers.

Bluefields had about 8,000 persons and no daily paper. The Company frowned on any social contact with the Nicaraguans so any romantic encounters had to be kept under the cover of darkness. After all, what else was a 21-year old kid expected to do?

We lost two plate power transformers in the transmitter due to dampness. That put us off the air for awhile, but from the 1920's they still had a long-wave transmitter on about 2,300 meters, together with two 300-foot towers and a "T" antenna, keyed from the "downtown" radio office about a mile away. This whole thing was powered from 110 volts of Edison batteries which were charged by a diesel driven generator. This bank of cells was also used to light our living quarters. A native boy regularly charged them each afternoon for two hours. But when we started using the L-W transmitter the batteries became discharged rapidly. Somehow the word never reached the boy to keep up the charging beyond the two hours. As the terminal voltage dropped, one by one we burned out the starting resistors of the H-V motor-generator set. Then we were really off the air until the Collins plate transformers could be flown to Managua for rewinding.

I created quite a stir on the ham bands when I put the Collins rig on the 40-meter phone band and signed YN4A. As electric power was 30¢ per KWH I "jumpered" the meter to keep the light bill from rising. Many a time the Chief Op came on watch at 7 a.m. and the transmitter was still warm from the night's hamming. My first year with TRT consisted of service aboard S.S. MAYARI-HPAJ; TES DARIEN-HPBD; and SS OROTAVA-HRAV. The second year was spent at Bluefields. Salary in those days aboard ship was \$125 and at YNB \$165 monthly.

I left Bluefields in 1937 to come back to Kansas for vacation and found I was unemployed because I refused to return to YNB for another year.

■ 30 ■

AN OPEN CHANNEL TO HAPPY MEMORIES



The Little Black Sister of The Great White Fleet

By—Stanley F. Wade



While many people are familiar with the United Fruit Company's rise to the top in the banana business, ably assisted by the ships of the Great White Fleet, few are acquainted with its participation in the sugar trade. For many years, United Fruit was the only American Company which grew the cane on its own plantations, ground it in its own mills, transported the raw sugar in its own ships, and processed it in its own refinery. Plantations and mills were at Banes and Preston, in Cuba's Oriente Province, and the refinery, Revere Sugar, in the Charlestown section of Boston. Originally chartered vessels were used for transportation from Cuba to Boston but early in 1917 the first company-owned sugar carrier was placed in service, the LEVISA/KDL, which is the subject of this saga.

The LEVISA, a "laker" built by American Shipbuilding of Detroit, was launched as the CLITCHFIELD in 1916, and purchased by United Fruit shortly before America's entry into World War I. As with most of the United Fruit's ships, it took its name from a geographical location in which the Company operated, in this case Levisa Bay, a small body of water adjacent to Nipe Bay, upon which the "Central Preston" mill was located. She was 244 feet in length, with the foremast on the fo'c'sle head, and mainmast on the poop, an odd-looking arrangement, but beauty was not a high priority of her designers. Beam was 43 feet, deckhouses white, and hull black, a far cry from the sleek white hulls of its banana-carrying sisters. Maximum speed was 8 knots, and from personal observation, I'm certain that rating was as optimistic as the miles/per/gallon figures now being given to many of the currently manufactured automobiles. In THE GREAT WHITE FLEET, author John H. Melville writes "Bluff-bowed and squat, the LEVISA was a clumsy-looking duckling that lacked many comforts, which gave rise to the saying, 'Anyone who started his nautical career on the LEVISA really started at the bottom.'" Although I did not start my career on that ugly duckling, I was fortunate, although some may consider otherwise, to have been aboard her during her final six voyages under the White Diamond of the United Fruit Company. Although the LEVISA was no cruise ship, it did provide certain benefits which others in the fleet did not. First, it was the only United Fruit ship of American Registry sailing regularly out of Boston. This was convenient for me since my home was in Stoughton, a Boston suburb. Second, it was a one operator ship, with no specified hours of watch, certainly a break compared with the six on - six off or eight on - eight off watches required of operators on United Fruit's ships. Third, operators aboard one-man ships received the same pay as Chief operators aboard the continuous watch vessels, provided they had equivalent seniority.

With World War 2 expanding in Europe, the LEVISA was able to make only a few voyages for United Fruit before being requisitioned by Uncle Sam, outfitted with armament manned by a Naval gun crew, and placed under military control. Little information is available regarding the ship's activities while being operated by the Government, but it is known she was one of the first ships to enter the harbor of Halifax, Nova Scotia, following the MONT BLANC explosion on December 6, 1917. Both the Naval and civilian crews were sent ashore to assist in the rescue work being carried on in the devastated city. Soon after the Armistice, the LEVISA was returned to its owners and restored to the sugar runs between Banes and/or Preston, and Boston. She continued in that service, with occasional south-bound stops to deliver general cargo to Havana, or soft coal to Kingston and Port Antonio, Jamaica. This service continued until the ship was decommissioned in July 1928, then sold in April 1929 to the Oriental Steamship Company, and its name changed to FOO WING.

Because of an increased demand for sugar following World War I, United Fruit added four new vessels, especially designed for the sugar run, to its fleet. These were the MARAVI, MACABI, MAYARI and MANAQUI, generally referred to as the "M" boats, all built in Glasgow, Scotland, delivered in 1921, and placed in the sugar service. For a number of years all four had white-painted hulls, reinforcing the LEVISA's position as "The

Little Black Sister." Larger than the LEVISA, and with ten knot speed, they operated for several years under the British flag, but were subsequently changed to Panamanian, then later, Honduran Registry. With five company owned ships available, chartered vessels were no longer required for the sugar runs.

Accommodations on the LEVISA left much to be desired. The radio operator had the best quarters aboard, better than those of the Captain. The radio shack and sleeping facilities occupied a room adjacent to the ship's chart room, directly below the bridge. The room was light and airy, the main drawback being the lack of screens over the portholes. When docked at either Preston or Banes, not far from the canefields, swarms of mosquitoes descended upon the ship at night, making it necessary for the room's occupant to decide whether to keep the ports open, and be eaten alive by the winged intruders, or close the ports and swelter. Usually closed ports won out, for the doorway to the chart room had a screen door which provided some ventilation. Bathing facilities were a bare minimum, with no pun intended. The only source of fresh water was a handpump on deck, outside the galley, and each crewman was furnished a bucket to transport fresh water to his quarters. There were two small salt water shower rooms, for officers and crew, but these were seldom used. Standard procedure for taking a fresh water bath was to borrow a bucket from a mate, or engineer, filling it and one's own bucket with fresh water, and bathing on the open deck, "soaping up" from one bucket then rinsing off with the other. Unfortunately, the feed line from the fresh water tank below to the pump above ran alongside the ship's boiler, and most of the time the water was exceptionally hot and had to be let cool. This was fine in fair weather, but when the ship was rolling, and that was most of the time while at sea, the buckets would tip over and end up in the scuppers.

The transmitter originally installed by TRT was a Wireless Specialty marble-panelled 1 KW 500 cycle quencher-gap affair, replaced in 1927 by an RCA ET 3627 200 watt Vacuum tube unit. No information is available on the first receiver but it may have been one of Wireless Specialty's double-deck tuners. Somewhere along the line, possibly right after World War 1, receiving facilities were modernized by installation of a Wireless Specialty IP-500. There was no emergency power supply either in the radio room or in the engine room. The ship's only generator was a 7.5 KW unit which had to power lights, radio, and ice boxes. This generator was so overloaded it was necessary to shut it down between 1300 and 1500 each afternoon, during which time kerosene lamps provided illumination in the engine room. Needless to say, this shutdown gave the radio operator an excellent opportunity for a siesta. When power was available, the voltage was always low and seldom sufficient to bring filament temperatures of the ET-3627 transmitter to the point where the oscillator tube would function. It was then necessary for the operator to go up to the bridge, whistle down the speaking tube to the engine room and say to the Engineer on watch, "For gosh sake, gimme another volt." Shortly thereafter, the pitch, or groan of the generator would pick up, filament voltmeter on the transmitter would climb half a volt, and the transmitter could be keyed. It was never necessary to inform the engine room when transmissions were finished, for if the transmitter was shut down, the generator would race, and the man on watch would promptly slow it down. This was a disadvantage, especially when receiving weak signals and noise from the transmitter's motor-generator created a problem. Several times it was suggested to the "powers that be" that a filament transformer with a slightly higher output voltage be installed in the transmitter but it was never done.

The LEVISA had neither a Direction Finder, nor a "Fathometer," although the latter would have been of considerable assistance during the ship's many trips across Nantucket Shoals. It did, however, have a "Distance Finder," manufactured by Submarine Signal, which, although a far cry from the DME currently used by aircraft, was of considerable assistance. At the time I sailed aboard "The Levi", Nantucket lightship had both a radio beacon and a submarine bell, whose starting pulses were synchronized. Hydrophones attached to the ship's hull permitted underwater signals to be picked up at a distance of twelve to fifteen miles, as I recall, and radio signals were picked up by the ship's operator. Wire connections enabled the radio signals to be relayed to the bridge, where they were combined with the bell signals picked up by the Hydrophones and by timing the difference between reception of the incoming signals, and applying a "speed of sound through sea water" formula, the exact distance from the lightship could be determined. By knowing the ship's course, and taking two different sets of

(Continued Next Page)

observations, the moving ship's precise position could be obtained. This was crude but effective, especially when the customary fog prevailed off Nantucket.

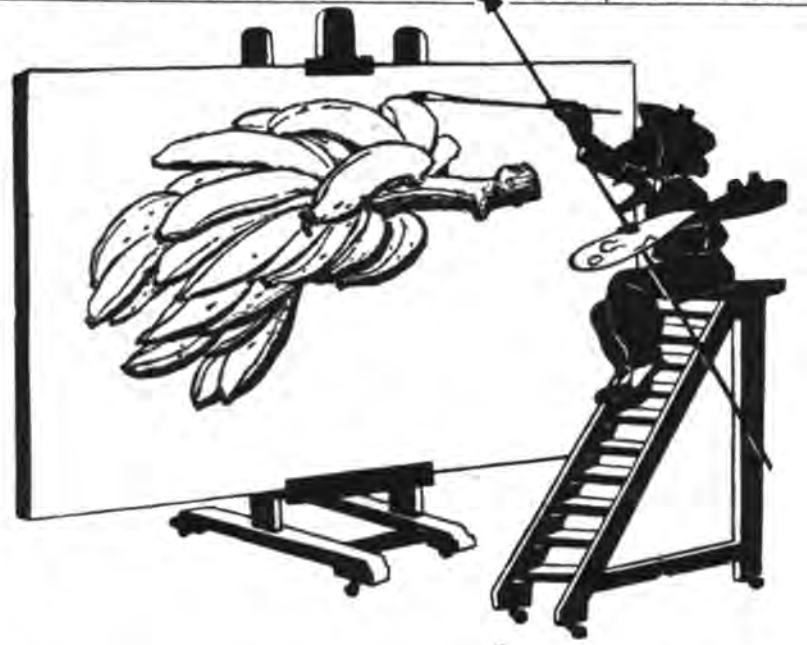
The LEVISA's flat-bottomed hull might have been satisfactory for transitting the Erie Canal, but it wasn't conducive to smooth sailing in the Eastern Atlantic. She would roll, pitch, and toss in anything heavier than a moderate sea, making little headway in any sort of blow. On one occasion, enroute from Boston to Cuba, the ship was caught in a southwesterly gale south of Nantucket, and hove to three and a half days. Since poor visibility prevented obtaining any idea of the ship's actual position, ultimately the Captain asked Lewis Hilles, (3409-SGP) the ship's operator at the time, to get a bearing from Cape Hatteras/NDW. Lew tried to contact NDW, but was unable to do so. However, he did note that Bermuda/BZB was coming in loud and getting louder. He reported this to the Captain, who shook his head and uttered a few unprintable words. Shortly thereafter the weather cleared and the ship's position was determined and it was found it had drifted east of Bermuda.

While sometimes annoying, the inability of the LEVISA to make headway in even a moderately rough sea had its advantages. At the Revere Refinery only one ship could unload at a time, and if a second vessel arrived before the first was unloaded, it would be moored at the end of the dock. Unloading generally required two days, and if the second ship arrived shortly after the first, it would have four days in port. Sugar ships enroute from Cuba to Boston usually sent their "will arrive" messages shortly after passing Cape Hatteras, and under normal conditions the "M" boats required about 50 hours to complete their voyage. The LEVISA, if seas remained calm and there was a minimum of fog, would require 65 hours. Knowing the LEVISA's peculiarities the shore staff in Boston took the position that they would "expect her when they saw her." Most of the time one of the "M" boats would leave a loading port in Cuba a day or two after the LEVISA had departed from the other sugar port and overtake its "Little Black Sister" a few days later, although they may not sight each other. When I was aboard the LEVISA, the Captain gave specific instructions that I was to be on the lookout for the "M" boat's daily position report, and to do all possible to intercept its arrival message. If I should miss this message I was to inquire "informally" of the other operator, "What time are you arriving at WBF?" It is amazing how many times we reached Revere to find that one of the "M" boats had arrived just a few hours earlier. I'm still wondering if the Captain reported to the Shore Superintendent that he had "rough seas," "head winds," "poor visibility," or if the Chief Engineer cited "water in the oil"!

Minor breakdowns, common aboard the LEVISA, were generally taken in stride. On one occasion, the Mate on watch, attempting to sound a passing signal on the ship's whistle, pulled it off the stack. Another time, the ship's carpenter, trying to take up slack in the radio antenna, exerted too much pull on the topping lift, sending the fore topmast clattering to the deck. During one voyage, while going through Crooked Island Passage enroute to Preston, the tail end of a hurricane carried away the ship's antenna, and there was no spare aboard. After a diligent search ashore, the chief electrician at "Central Boston" located some secondhand 0000 gauge trolley wire, complete with a number of kinks. This wire, installed as the ship's antenna, made several voyages before being replaced. Could it be that the kinks changed the antenna's "Q" thereby increasing its efficiency? The final breakdown led to the ship's last voyage under the United Fruit house flag, and was more serious as it resulted in the LEVISA being sold, and yours truly being out of a job.

Late in May, 1928, the LEVISA left Boston for Newport News where it was to load a cargo of soft coal for Jamaica. Arriving off Cape Charles, misfortune struck, the lining being ripped out of the engine's high-pressure cylinder. Anchor was dropped, the "resting" DC generator started to provide power for the radio transmitter, and a tug summoned to tow the disabled ship into the Newport News shipyard. Later it was towed to the coal loading dock where the waiting cargo for Jamaica was taken aboard, thence back to the shipyard. Repairs to the damaged HP cylinder took only a few days, but a general survey of the entire propulsion machinery found the main shaft out of line, probably having been in that condition for some time. Repairs to the shaft would take several weeks, and would be expensive, and it was decided to have the ship continue its voyage, with a further evaluation to be made if and when it returned to Boston. The voyage south and the ship's return to Boston, was made without incident and, after discharging its cargo, the LEVISA was tied to the end of the dock at the Revere Refinery while various options were evaluated by its owners. These were: 1. Have the main shaft realigned. 2. Send the LEVISA to sea as it was, taking a chance that it might become disabled. 3. Remove the "Ugly Duckling" from service, and put it up for sale. Although relatively young for a seagoing vessel, the ship was much slower, and its cargo-carrying capacity smaller than that of its bigger brothers, the "M" boats, the decision went to Option 3, saddening we who had enjoyed sailing aboard "The Little Black Sister."

■ 30 ■



Portrait of an Industry

THE
GREAT
WHITE
FLEET



The United Fruit Company's Radio Telegraph System

THE "LOGO" OF A GREAT ORGANIZATION — THE BANANA.

"There's GOLD in them thar tropical swamplands" ... Columbus told the natives of Hispanola and Cuba as the Santa Maria touched their shores during his epic voyage in Century 14. (*) However (**) no one did much about it until Century 18 when an entrepreneur named Minor C. Keith met Sea Captain Lorenzo Dow Baker. The Captain fished the New England Banks in summer but on 'off-seasons' chartered his craft to bring-in extra dollars. Thus in 1870 his schooner, the "Telegraph", carried a load of mining equipment to Ciudad Bolivan up the Orinoco River. Returning, this shrewd Yankee dropped into Port Morant in Jamaica to pick up a cargo of bamboo for delivery in New York. Here he first saw and tasted the banana and was so impressed he loaded a small number of stems on his schooner with the idea of selling them on the East Coast.

After a fast trip north, Capt. Baker anchored in Jersey City where he disposed of his 'golden bananas' at a handsome profit. He was impressed with the sensation this unfamiliar and good tasting, unique fruit created among merchants along the Manhattan waterfront.

This was the "SPARK" that started a great industry. It was the first time in history that a single variety of fruit had such an impact on the eating habits of the world - especially in Europe and North America.

Captain Baker hired young Andrew Preston to 'huxter' this exotic new fruit for merchants of Boston and soon they were so successful they started the Boston Fruit Co., and in a few years (1899) it became the United Fruit Co. This parent company soon spawned many supporting organizations or subsidiaries - one of them being the TROPICAL RADIO TELEGRAPH CO. These organizations became "Giants in their own day" - hiring a galaxy of employees, many of whom were Wireless Operators. The 'gold' of the banana was literally alchemized to gold coins which any bank would give in exchange for paychecks. There is a notable color-match in the golden color of the banana and the "Eagle" or "Half-Eagle" coins.

The banana became the "IN" food and was popular throughout the land. The media picked up the word "Banana" and what they did to it was murder! Soon ships of the UFC became the "Banana Navy". They talked and wrote about "Banana Republics and Banana-Land" - the countries bordering the Caribbean and Gulf. "Banana Oil" - the words (not the product) equated to ... "a lot of baloney!" "To go Bananas" meant that you were off your rocker! To say a person was "Bananas" meant that he or she had less than a full barrel of pickles. "Oh, Bananas!" meant 'Nertz' (whatever that meant). Of course everyone slipped on the banana peel because they were everywhere.

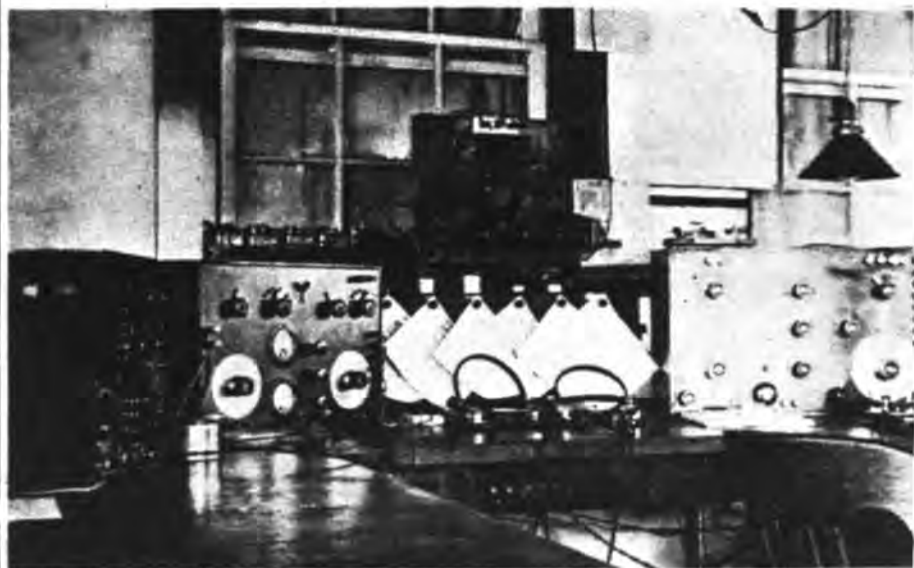
The music boys got into the act too. First came the wacky, daffy tune ... "Yes - We Have No Bananas", composed by Frank Silver. This kept things stirred up for ten years or so. A sequel was a jingle called "Chiquita Banana" which the Brazilian song-bird, Carmen Miranda, 'did' for United Fruit. What fruit ever claimed so much glory and was so world renowned? This was the heritage of those who worked for The Great White Fleet and "Tropical Radio". ■ 30 ■

(*) Historically inaccurate

W.A.B.

(**) The banana was introduced to North America by a Spanish missionary named De Berloga. He took them from the Canary Islands to Santa Domingo in 1516 - Five Centuries ago! Tempus fugit!!

SWAN ISLAND 'US'



SWAN ISLAND is a small coral island situated in the Western Caribbean at Latitude 17° 22" N, and Longitude 83° 57" West. None but the most detailed maps show the island as it is only about two miles long and a half mile wide. The highest point on the island is some fifty feet above the sea. A good portion is covered by a coconut grove of about 8000 trees. The rest of the island is wooded with a variety of trees and underbrush. Most of the shoreline is of a sharp coral rocks and cliffs. Several Sand beaches are found on all sides of the island.

The Island is about 900 miles south of New Orleans and some 90 miles northwest of Coretes, Honduras. It is one of the most beautiful islands in all the world — a poet's dream, except during hurricane season. [These words are not Ye Ed's]

Swan Island was named after its English discoverer, Captain Swan. Pre-UFCo there were no people on Swan except an old gentleman who called himself Captain Adams. He was in charge of the Swan Island Commercial Company, a U.S. Coprn., which owned all 1300 acres of the island — and perhaps wished it didn't. Captain Adams had a dozen or so natives of the Cayman's as laborers, who dug phosphate shale for intermittent export. They also fished, hunted game and spent part of their time harvesting coconuts for a living.

Swan Island should become a 'memorial' to Mack Musgrave who eningeered the first installation of a radio station there. It took him nearly 8 months to overcome lightering ashore of the heavy equipment on the open sea from anchorages a mile or so off shore. Finally late in 1907 the station with its 10 K.W. Spark was finally commissioned.

The site on Swan Island was selected as a relay point for traffic between New Orleans and Central American stations. It quickly developed that due to intense static, signals could not be relied upon to get through to maintain reliable communications so power at "US" was increased with new equipment.

SOWP member STEPHEN PAULL (1453-V) was assigned to Swan Island by the U.S. Weather Bureau along with observers Harold Crutcher and George Barnes to re-establish a weather station on the island. They commissioned station "WWFL" and furnished regular meteorological reports from Swan Island. "Steve" Paull reported that Mr. Donald Glidden was caretaker of the Island for United Fruit Company. This was in 1941. He also informed us that 'humidity' and 'flying salt spray' caused them the biggest problem, especially with equipment and corrosion thereof.

Reporting on 'flora and fauna' of the island, "Steve" said ... "who can forget the iguananas, rats and lizards? The iguananas are all over the island, and being vegetarians, make their ugly appearance in gardens and coconut trees feeding on plants and coconut blossoms. Rats make their appearance known at night by mysterious noises which were usually attributed to 'Captain



STEPHEN PAULL - 1453-V
Served as Weather Observer for the U.S. Weather Bureau on Swan Island 1940-41.. His Swan Island call was KD4GYM. He now lives in Marquette, Michigan. Call - N4SP.

TROPICAL RADIO TELEGRAPH CO. STATIONS



Swan's ghost'.

The lizards are the best friends of the animal kingdom. Realizing that they are largely responsible for reducing the insect and mosquito population, we didn't mind at all if occasionally one of these comical little creatures was found perched on the microphone or typewriter. They are so very curious that I had a mind to teach one of them the code and let him do my CQ'ing for me on CW".

'Steve' spent two years on the island during which time he operated " KD4GYM. That is another story — and a very interesting one which we hope to bring you at some future date.

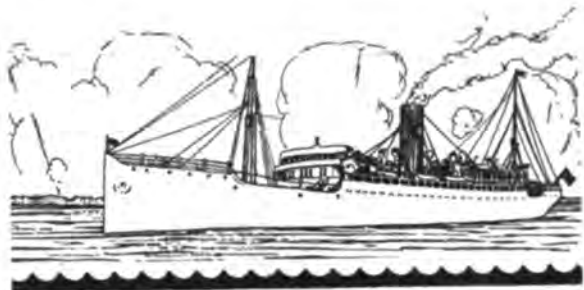


SWAN ISLAND - Shipline view - 1920 - S.Paull Photo

OPERATING POSITION - SWAN ISLAND ("US") - 1920
Receiver at left was designed and built by Operator A.E. Hapeman; One at right, "Battleship Type [IP-500] WSA Co. designed and built by C. C. Harris. CCH Photo - 1920



SWAN ISLAND WIRELESS STATION 1920
Station located 90 miles off Honduran Coast occupies 25-Acres on west end of Great Swan. First station was built in late 1907. Rebuilt and enlarged in 1912. Photo by C.C. Harris.



By-Gordon Pascoe

The following service record may be of interest and I quote verbatim:

From Reverse Side of Licenses:

- New Orleans (WNU) May 9, 1924 to June 5, 1924 - H. O. Easton
 - Pto. Castilla (UC) June 6 to Aug. 17, 1924 - H. O. Easton
 - Pto. Castilla (UC) Aug. 15, 1924 to Feb. 2, 1926 - E. L. Commagere
 - Tegucigalpa (UG) Feb. 1, 1926 to Aug. 12, 1927 - E. L. Commagere
- (Chief at Tegucigalpa)

Following is a note of interest about the beautiful poinsettia plants we see at Christmas. Gord enclosed an interesting story about them as follows:

How did the poinsettia get its name? We had an ambassador to Mexico named Poinsettia and when he came back to the U.S. he brought some of these beautiful flowers with him. It was the 19th century. The people in Washington appreciated them so much they named them poinsettias. But in Mexico they had an entirely different name.

There was a legend, the way the flower came into being. There was an important mass in the Mexican City Cathedral. The people attending were all dressed in their finery. A poor peon, practically dressed in rags, wanted to go in and worship but was embarrassed to join all the fine-looking people so he found a place outside where he could kneel and join the prayers. Later a beautiful red flower grew on this spot. It was the first, and Mexicans called it the "Flower of God."

This story brought to mind an experience I had in one of Mexico's neighbors, the Republic of Honduras. I was assigned to the high-powered radio station at the capitol, Tegucigalpa. (Mayan for Silver Hill.) On occasion, for the exercise and to view the beautiful countryside, I would climb one of the 425-foot high antenna towers.

My attention would always become riveted to a little white building far out on the plain. This intrigued me, and I asked our lineman Ohenio if he knew what it is. He replied, "Si, Jefe. It is a little church, built on the spot where a traveler had laid down to rest and had fallen asleep. He was awakened by something pricking him. It was a little angel with a sword, and the traveler was told he was chosen to build a church on this spot, and the angel turned into gold.

"The traveler immediately put other matters aside and eventually had the church built and the golden angel complete with sword was placed in an honored spot."

I felt I should go there to see the church, so I had Ohenio saddle my horse, whom I had named "Sparky," diminutive for "Spark Plug," and I started out. It was about a two-hour ride on horseback.

I tethered my horse on a hitching post and, with proper respect, entered the church. After a short prayer, as would be customary, I walked over to a glass case where out of the corner of my eye I had seen the golden angel with wings extended and the sword held in one hand, extended outward as if in the act of stabbing. It was so much a reminder of the story. Having been raised in New Orleans, a Catholic town, I was used to seeing statues of the saints, but here they were fully clothed with garments of the times.

Now I began to think about my horse, who had not had water for a long time, and if he could get loose, would come up to the church steps, being used to coming into the radio men's residence patio and drinking from the fountain, so leaving a small donation in the poor box, I hurried out and soon was on my way. I had not gone very far when I noticed three horsemen were following me. There were many bandits in this wild country. For safety's sake I gave Sparky the "gun" and quickened our pace. Probably nothing to worry about though, for about an hour later, the other horsemen had disappeared, and I had a good story to tell my colleagues.

"Gord" Pascoe [33 - SGP] Charter Member worked for TRT at WNU "UC" Pto. Castilla and "UG" Tegucigalpa from 1924 - 1926. He has included a few pictures he snapped nearly 60 years ago, as shown on this page.. "Gord" worked nearly 40 years for the early "AIR MAIL" and later Federal Airways (CAA) - now FAA.

ADVENTURES ALA TRT

[UG]

TEGUCIGALPA
HONDURAS

View of tower - 400' or more in height and TRT buildings at UG.



[UG]

TEGUCIGALPA
HONDURAS

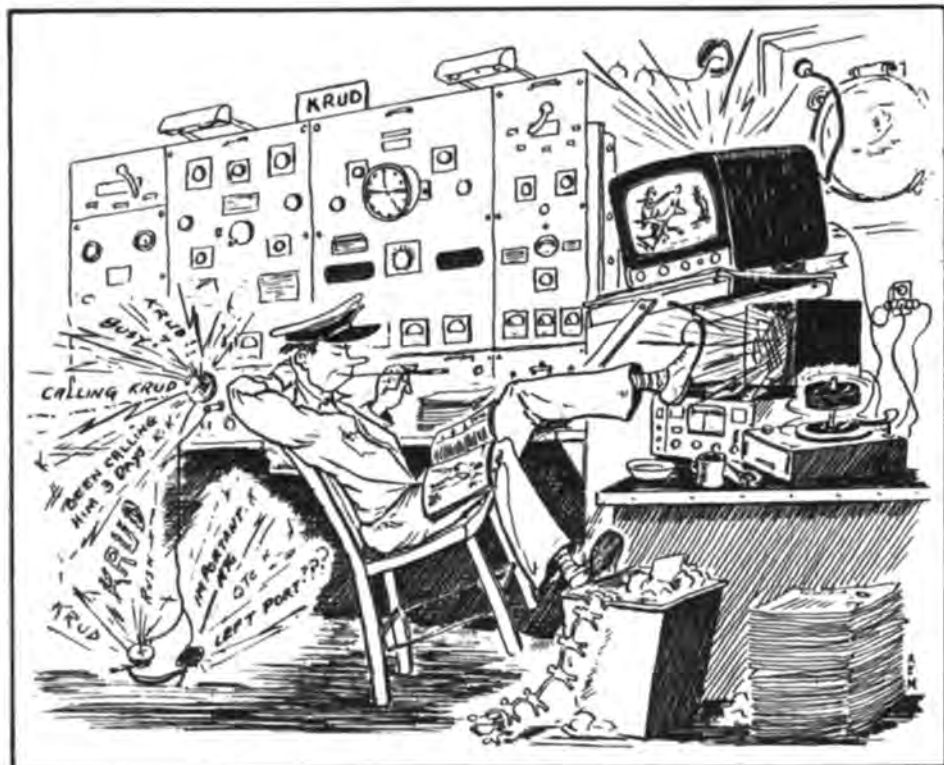
View of UG Xmtr plus Residence & other buildings at UG... GHP Photo. 1926



[UG]

TEGUCIGALPA
HONDURAS

"Our 'UG' Swimming hole. A small stream dammed up. A fine place to swim..."



SPARKS JOURNAL

Society of Wireless Pioneers

THE STORY
OF TROPICAL
RADIO

By—V.W. Cornelius

(Continued from Page 11)

At an earlier date, WNU was located in lower New Orleans, but do not remember the location. It was way before my time. At one time I had a magazine publication which gave history of TRT, but it has been lost during the years. Believe the first shore station was installed at some tropical port in 1912.

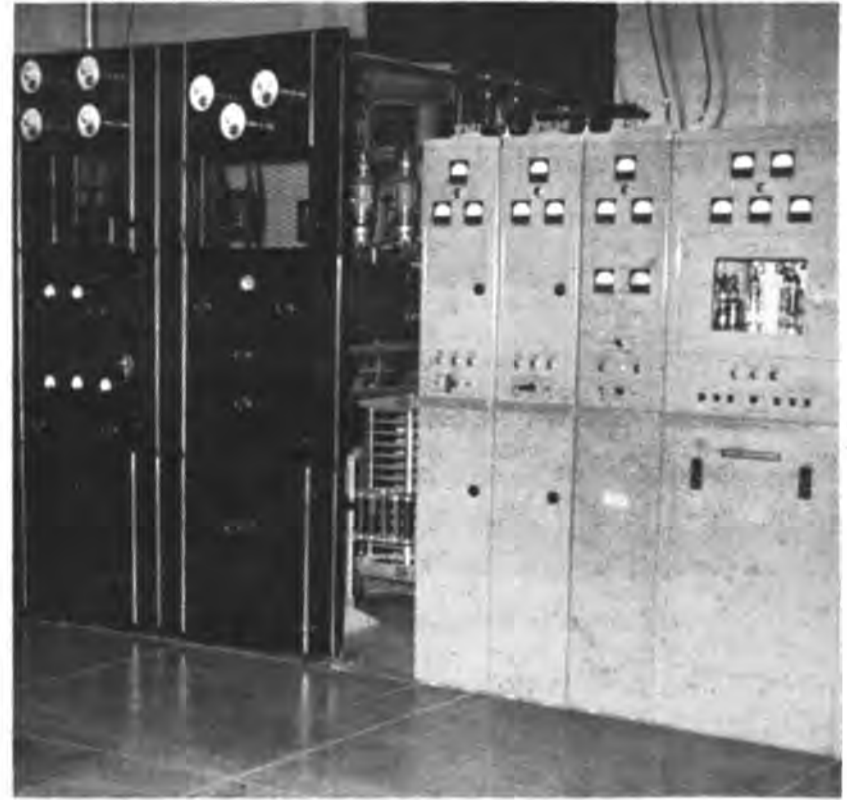
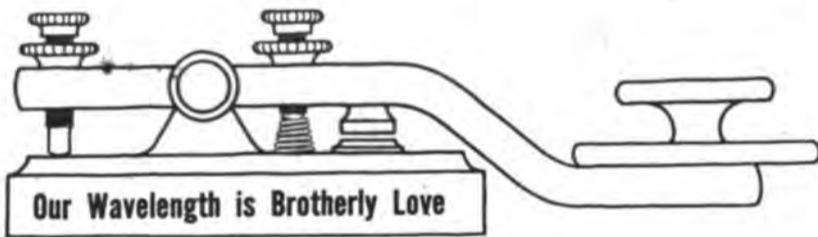
Unfortunately, I don't believe there is anyone still active in TRT who could give you any information as all of them are "Johnny-Come-Latelies." Of the WNU crew since my time, there are three of us left, one after my time, and the other before my time. The latter is "Al" Alvested, who worked at WBW and was, until his retirement, Plant Superintendent at WNU. However, he isn't in any shape to supply any information. When Ed Long died I dropped Al a note to let him know. His wife called to let me know he had been in hospital for five weeks and was apparently in pretty bad shape. When Wes Hille died a couple of weeks ago, I dropped another note but have not heard anything. Al lives in Clearwater, Fla.

Was at surprise birthday and wedding anniversary party for Lee Tilton last night. It was his 80th birthday and 47th wedding anniversary. Lee is "at large" member of Chapter 18. He and I go back to about 1921. Lee might be a source of some material, as he was in White Fleet before me and worked at WBF. He and I sailed together frequently. Lee left radio and became very successful commercial photographer in New Orleans. I was unable to make the organizational meeting of 18, but hope to make the next one. Did find out I have lowest member number. I'm 302.

Hope some of this rambling may be of use, Bill, but if not, I won't feel badly. Just drop it in your round file.

My best to you and hope you can round up a good file on TRT, which incidentally today is known as TRT Telecommunications.

■ 30 ■



"WNU" 'THE OLD' vs 'THE NEW' - KENNER - 1948

This was photo of the old composite 5 KW Xmtr (left) alongside the new Westinghouse 9KW units at Kenner in 1948-49. The old unit was 'homebrewed' from the old 20 KW 3331 meter (90KC) job which was in use at the City Park (Nola) location. Looking between the old and new units, one can see one of the tuning capacitors. Note the plate spacing. Two of the three PA tubes can be seen - there were 3 849H's in parallel and a 813 used as driver. The oscillators were 6L6's. This was dual frequency - (500/448) with remote frequency shift. - The emergency Xmtr was a RCA ET3626. It was located in the corner behind and can not be seen. Antenna was balanced "T".

The Westinghouse units were type "MW" (two left hand positions) The right hand unit was "master" and left hand was 'slave', dual fcy (400/448). The right hand unit was one of the HF xmtrs and next to it is the 20 KW rectifier. This unit was single fcy rated at 2-3 KW.. Don't recall date but 'WNU' working fcy was changed from 448 to 478 kcs - think this to do away with some interference to super-het receivers most of which had 456 kc IF's. (We did have some problems from nearby neighbors so kept a number of wave traps on the shelf. Photo from V.J. Cornelius collection, also this commentary.

The SCIENTIFIC & HISTORICAL RECORD OF THE EARLY DAYS OF WIRELESS

SPARKS JOURNAL

★ ★ ★ ★ SOCIETY OF WIRELESS PIONEERS, INC. ★ ★ ★ ★

SOCIETY OF WIRELESS PIONEERS, INC.
P. O. Box 530
SANTA ROSA, CALIFORNIA 95402

SECOND CLASS POSTAGE
PAID
AT SANTA ROSA, CALIF.

Newsletters from the Society of Wireless Pioneers, founded 1968
~ Dedicated to the History of Seagoing Wireless Operators ~

Special thanks to the following for these documents:
Key [SK = Silent Key, SGP = Spark Gap Pioneers, P = Pioneers,
V = Veteran, M = Member, Sparks = Worked at Sea]

- (SK) Ed Raser, W2ZI, Radio Pioneer, Sparks, SOWP #35-SGP
- (SK) Bill Gould, K2NP, Radio Pioneer, Sparks, SOWP #565-P
- (SK) Matty Camillo, W2WB, Sparks, SOWP #750-SGP
- (SK) Dare Robinson, WB2EVA, Sparks, SOWP #2284-SGP
- (SK) Ray Brooks, K2LTX, Sparks, SOWP #1387-P
- Olive Jesse Roekner, VA6ERA, Sparks, SOWP #2891-V
- Spud Roscoe, VE1BC, Sparks, SOWP #2301-M
- David J. Ring, Jr., N1EA, Sparks, SOWP #3709-M
- Steven Rosenfeld, Infoage Librarian, Tech at WOO

Digital media © John Dilks, K2TQN, 2012



NEWSPAPER
SPARKS - JOURNAL



TO:

POSTMASTER - Please send Form 3579 if unable to deliver.
FOREIGN ADDRESSED COPIES - Abandon if unable to deliver.

"Swim anyone?" circa 1900.